Module 1: Introduction to Curriculum Development

No	Topic	Description
1	**Module Title**	Introduction to Curriculum Development
2	**Prerequisites and Co-requisites**	Engage in teaching (e.g. conduct lessons in theory and practical) in a formal higher education system
4	**Module duration**	12 hours (2 days)
5	**Module Aim**	To impart an overview of the significance of a curriculum and its development, so that the participants can utilize such knowledge to appreciate the crucial role of a curriculum in the Higher Education system
6	**Objectives and Learning Outcomes**	1. Define a curriculum and its components 2. Explain the need for a curriculum in Higher Education 3. Explain the necessity to maintain flexibility in a curriculum to address the societal requirements 4. Analyze a curriculum to determine its suitability for the current needs; i.e. gap analysis 5. Discuss the factors contributing to the persistence of the gap and suggestions for bridging the gap
7	**Assessment Strategy**	Five contextual assignments
8	**Syllabus**	1. What is a curriculum? 2. Why do we need a curriculum? 3. Why is curriculum development and revision in focus now? 4. Resistance and barriers to change of curricula 5. How to overcome barriers: success factors in curriculum change
9	**Suggested Reading**	• http://www.infed.org/biblio/b-curric.htm OR **curriculum** theory and practice - **Infed.org** • http://coefaculty.valdosta.edu/stgrubbs/Definitions%20of%20Curriculum.htm • http://en.wikipedia.org/wiki/Curriculum • http://www.leeds.ac.uk/educol/ncihe/nr_087.htm • http://crpit.com/confpapers/CRPITV30Gruba2.pdf • http://www.nais.org/publications/ismagazinearticle.cfm?ItemNumber=148786

Topic 01: What is a Curriculum?

1. **Aim:** To impart knowledge and understanding of the basic concepts and principles of a curriculum, so that the participants are in a position to appreciate the interplay between their teaching and learning activities and the educational goals of the institute as well as its impact on the society.

2. **Learning Outcomes:** Participants would be able to
   1.1 Define a curriculum
   1.2 Identify and list the components of a curriculum
   1.3 Differentiate between a curriculum and syllabus

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - Sample of an assessment in the above curriculum

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
1.1	The curriculum is a statutory document that instructs and guides the institute, teachers/examiners, and learners how to organize (i.e. how to identify, implement and monitor) its educational experiences to achieve the educational goals of a study program/module/course.	Brainstorming Snowballing Buzz groups	15
1.2	To operationalize the above definition, a curriculum should include material that will facilitate the identification, implementation and monitoring of the educational experiences. A curriculum is an inclusive term which describes the framework of vision, mission, aims/goals, intended learning outcomes/instructional objectives, criteria for admission of learners, content, teaching and learning methods, assessment strategies, resource requirements, time allocations, and evaluation strategies of a study program/module/course. In essence, the curriculum comprises the entire learning environment in which a study program/module/course is implemented.	Discovery learning Brainstorming Snowballing Buzz groups	30
1.3	A curriculum encompasses the entire gamut of educational activities in a study program/module/course. In contrast, a syllabus is merely a list of content. Thus, a syllabus is a part of the curriculum. As professional educators it is unacceptable to use the two terms interchangeably.	Brainstorming	15

5. Guidance notes to instructors

1.1. Initially let the participants come up with a definition in small groups based on the curriculum documents that they bring.
Develop the definition given under 4 (1.1) by putting together the definitions that the participants come up with.
Discuss the implications of the curriculum being a statutory document.
Discuss what 'educational experiences' are.

1.2 Let participants identify the main components of a curriculum using the documents that they have brought.

List the components that the participants come up with.

Fill in the gaps: i.e. include the components that the participants have not included.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Take a curriculum of your own and discuss its "goodness-of-fit" in the light of topic 1.

Notes for Topic 1

What is a curriculum?

When discussing this topic, reading the following excerpt from the recommended reading by Smith (2000) is essential.

The idea of curriculum is hardly new - but the way we understand and theorize it has altered over the years - and there remains considerable dispute as to its meaning. It has its origins in the running/chariot tracks of Greece. It was, literally, a course. In Latin curriculum was a racing chariot; *currere* was to run. A useful starting point for us here might be the definition offered by John Kerr and taken up by Vic Kelly in his standard work on the subject. Kerr defines curriculum as, 'All the learning which is planned and guided by the school, whether it is carried on in groups or individually, inside or outside the school (quoted in Kelly 1983: 10; see also, Kelly 1999). This gives us some basis to move on - and for the moment all we need to do is highlight two of the key features:

Learning is planned and guided. We have to specify in advance what we are seeking to achieve and how we are to go about it.

The definition refers to schooling. We should recognize that our current appreciation of curriculum theory and practice emerged in the school and in relation to other schooling ideas such as subject and lesson.

In what follows, we are going to look at four ways of approaching curriculum theory and practice:

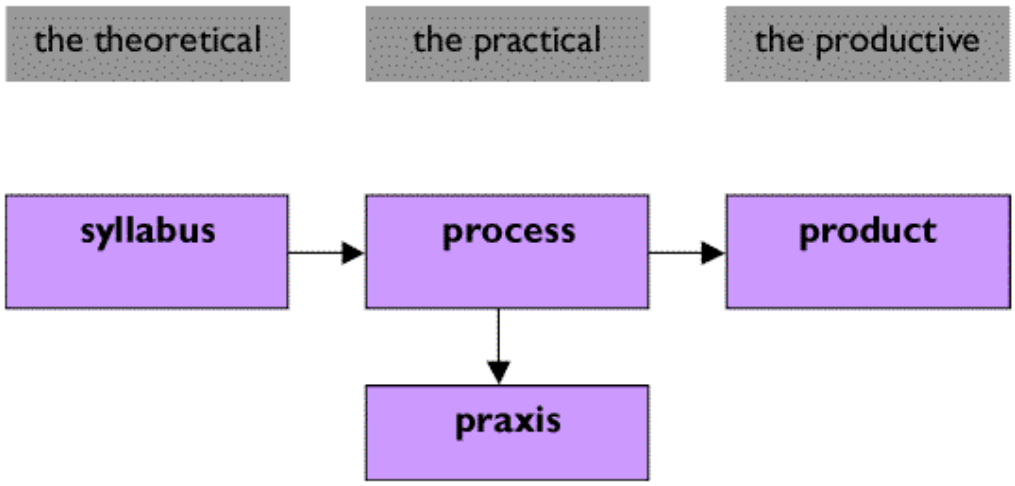
1. Curriculum as a body of knowledge to be **transmitted**.

2. Curriculum as an attempt to achieve certain ends in students - **product**.

3. Curriculum as **process**.

4. Curriculum as **praxis**.

It is helpful to consider these ways of approaching curriculum theory and practice in the light of Aristotle's influential categorization of knowledge into three disciplines: the theoretical, the productive and the practical.



Here we can see some clear links - the body of knowledge to be transmitted in the first is that classically valued as 'the canon'; the process and praxis models come close to practical deliberation; and the technical concerns of the outcome or product model mirror elements of Aristotle's characterization of the productive. More of this will be revealed as we examine the theory underpinning individual models.

Curriculum as a syllabus to be transmitted

Many people still equate a curriculum with a syllabus. Syllabus, naturally, originates from the Greek (although there was some confusion in its usage due to early misprints). Basically it means a concise statement or table of the heads of a discourse, the contents of a treatise, the subjects of a series of lectures. In the form that many of us will have been familiar with it is connected with courses leading to examinations - teachers talk of the syllabus associated with, say, the Cambridge Board French GSCE exam. What we can see in such documents is a series of headings with some additional notes which set out the areas that may be examined.

A syllabus will not generally indicate the relative importance of its topics or the order in which they are to be studied. In some cases as Curzon (1985) points out, those who compile a syllabus tend to follow the traditional textbook approach of an 'order of contents', or a pattern prescribed by a 'logical' approach to the subject, or - consciously or unconsciously - the shape of a university course in which they may have participated.

Thus, an approach to curriculum theory and practice which focuses on syllabus is only really concerned with content. Curriculum is a body of knowledge-content and/or subjects. Education in this sense, is the process by which these are transmitted or 'delivered' to students by the most effective methods that can be devised (Blenkin *et al* 1992: 23).

Where people still equate curriculum with a syllabus they are likely to limit their planning to a consideration of the content or the body of knowledge that they wish to transmit. 'It is also because this view of curriculum has been adopted that many teachers in primary schools', Kelly (1985: 7) claims, 'have regarded issues of curriculum as of no concern to them, since they have not regarded their task as being to transmit bodies of knowledge in this manner'.

Curriculum as product

The dominant modes of describing and managing education are today couched in the productive form. Education is most often seen as a technical exercise. Objectives are set, a plan drawn up, then applied, and the outcomes (products) measured. It is a way of thinking about education that has grown in influence in the United Kingdom since the late 1970s with the rise of vocationalism and the concern with competencies. Thus, in the late 1980s and the 1990s many of the debates about the National Curriculum for schools did not so much concern how the curriculum was thought about as to what its objectives and content might be.

Source: Smith MK. (1996, 2000) 'Curriculum theory and practice' *The Encyclopaedia of Informal Education.* Available at: www.infed.org/biblio/b-curric.htm (Accessed on 20 may 2012)

What is included in a curriculum?

The following excerpt from Wikipedia underscores the breadth and scope of the ingredients of a curriculum. Although the material that is described in this document as ingredients of a curriculum is not concrete, it gives the broad outline of the components of a curriculum.

In *The Curriculum*, the first textbook published on the subject, in 1918, John Franklin Bobbitt said that curriculum, as an idea, has its roots in the Latin word for *race-course*, explaining the curriculum as the course of deeds and experiences through which children become the adults they should be, *for success in adult society*. Furthermore, the curriculum encompasses the entire scope of formative deed and experience occurring in and out of school, and not only experiences occurring in school; experiences that are unplanned and undirected, and experiences intentionally directed for the purposeful formation of adult members of society.

To Bobbitt, the curriculum is a social engineering arena. Per his cultural presumptions and social definitions, his curricular formulation has two notable features: (i) that scientific experts would best be qualified to and justified in designing curricula based upon their expert knowledge of what qualities are desirable in adult members of society, and which experiences would generate said qualities; and (ii) curriculum defined as the deeds-experiences the student *ought to have* to become the adult he or she *ought to become*.

Hence, he defined the curriculum as an ideal, rather than as the concrete reality of the deeds and experiences that form people to who and what they are. Contemporary views of curriculum reject these features of Bobbitt's postulates, but retain the basis of curriculum as the course of experience(s) that forms human beings into persons. Personal formation via curricula is studied at the personal level and at the group level, i.e. cultures and societies (e.g. professional formation, academic discipline via historical experience). The formation of a group is reciprocal, with the formation of its individual participants.

Although it formally appeared in Bobbitt's definition, curriculum as a course of formative experience also pervades John Dewey's work (who disagreed with Bobbitt on important matters). Although Bobbitt's and Dewey's idealistic understanding of "curriculum" is different from current, restricted uses of the word, curriculum writers and researchers generally share it as common, substantive understanding of curriculum.

Source: http://en.wikipedia.org/wiki/Curriculum

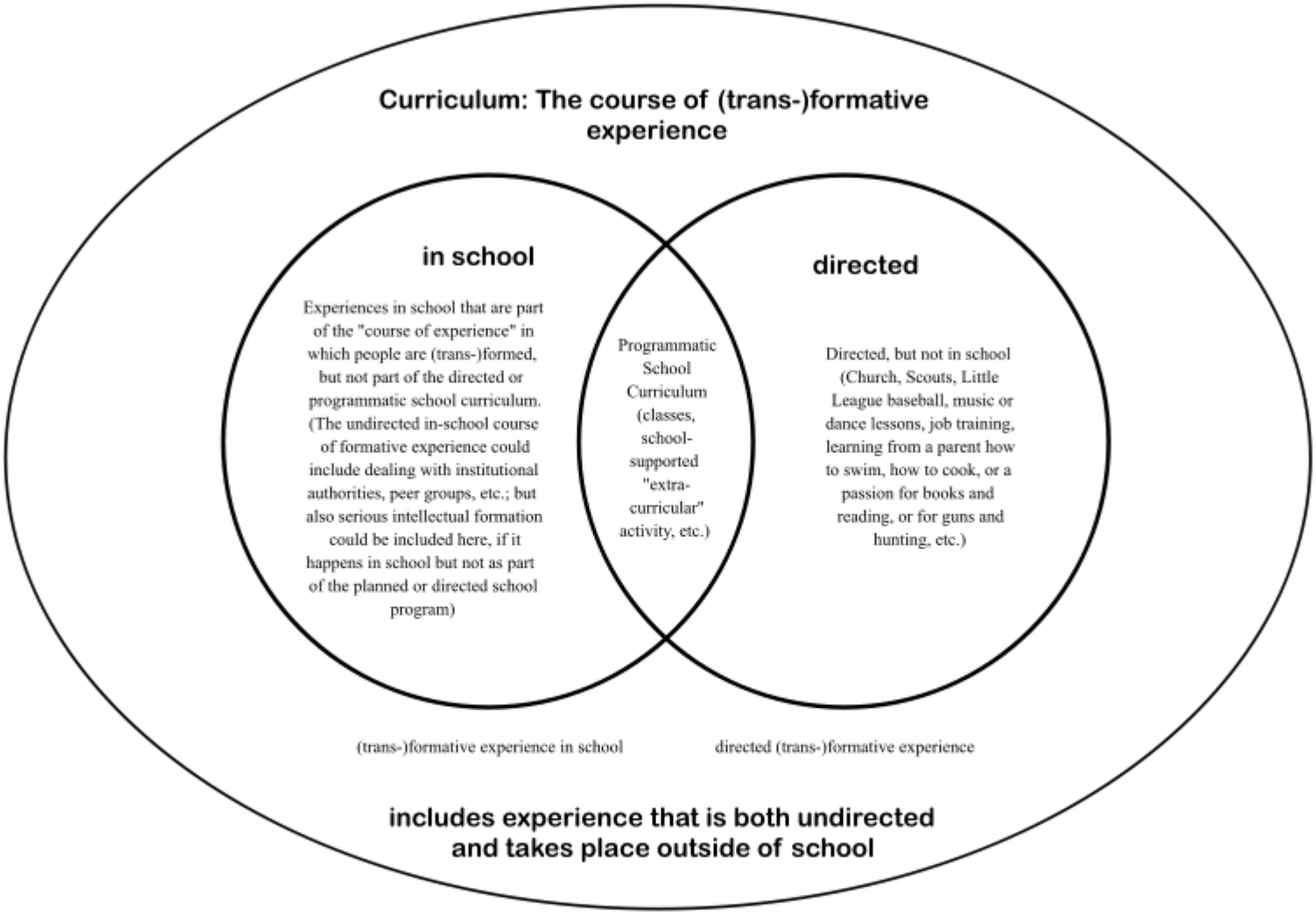


Figure 1.1: Curricula Vector

Source: http://en.wikipedia.org/wiki/Curriculum

Differences between a curriculum and syllabus

Task: Re-read the section on 'curriculum as a syllabus to be transmitted'

Task: Discuss whether such a description of a curriculum encompasses its true meaning in the light of the reading above.

According to the aspects that should be included in the curriculum, as stated in the 'curriculum outline' (page 2), are there other components to a curriculum? How do these components contribute to the successful implementation of a curriculum? Discuss how the following aspects contribute to the successful implementation of a curriculum. This will give us the answers as to why the aspects below should be components of a curriculum.

- Vision, mission, aims/goals: A curriculum is the document that translates the purpose of an educational institute to action.

  The vision broadly identifies the purpose of an institute

  The mission describes how this purpose should be achieved.

  Goals/Aims: The role of the trainer/teacher in the teaching/learning process. This would be "what" would be taught and "why" it should be taught.

- Intended learning outcomes/instructional objectives: The role of the trainee in the teaching/learning process. This should specify the performance, the standard and the conditions under which the outcome is expected.

- Criteria for admission of learners: A curriculum would have the ILOs for different "levels" of learning. Hence, it should specify the minimum criteria that a learner should possess to be admitted to another 'level'/"program" of learning

- Content: This should be a hierarchy of ILOs in a "course"/"program" etc

- Teaching and learning methods: Different courses would require a variation in the teaching/learning methods in order to bring about the ILOs. The curriculum could specify which T/L methods would be used for the different courses/programs etc.

- Assessment strategies: It is imperative that with different ILOs the method of assessment would differ. Hence the curriculum should specify the assessment strategy which would encompass the criteria, methods, schedule of assessment etc.

- Resource requirements: Each course/program would require resources specific to the Course in order to achieve the ILOs. Hence the curriculum could specify the requirements in order to achieve the ILOs satisfactorily.

- Time allocations: Each course/program would need specific number of hrs/days/months for successful completion. The curriculum should specify the time allocations so that stakeholders (students/faculty/administration) could optimally allocate time available during semesters/years for fulfillment of the course requirements to achieve the ILOs.

- Evaluation strategies of a study program/module/course: It is important that stakeholders feel/believe that the course/module/program was worth taking/studying/learning. Therefore it is important that an evaluation strategy be worked out to measure whether the course/program etc delivered what it should have. The stakeholders could be students/faculty staff/administration/outside experts/alumni/employers.

Topic 02: Why Do We Need a Curriculum?

1. **Aim:** To impart the understanding that the specific educational goals of the institute have to be fulfilled within a specified time frame using a specified methodology, so that the participants are empowered to use this understanding to guide their own educational practices in their setting.

2. **Learning Outcomes:** Participants would be able to
   2.1 Explain the necessity for a curriculum in education
   2.2 The advantages and disadvantages of having a curriculum as opposed to not having one

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - Sample of an assessment in the above curriculum
   - The documentation of a 'needs analysis' of a study program

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
2.1	Curriculum is needed as a planning tool to implement the educational goals of the institute. Some of the reasons why a curriculum is necessary are: - To maintain uniformity of the product - To offer a structured, well-sequenced and easy to assimilate study material - To offer a 'unique' teaching and learning experience based on unique strengths and opportunities of the institute The above reasons should guide both the students and teachers when selecting a particular educational institute to pursue their careers.	Brainstorming Snowballing Buzz groups	60
2.2	- A list of topics (i.e. a syllabus) will not specify the depth and the breadth that a topic has to be dealt with. As a result the uniformity of the product will not be able to be maintained. - At a planning stage a curriculum will force the planners to consider logistics; e.g. the time available, the human and physical resources, the sequence of topics, etc.	Discovery learning Brainstorming Snowballing Buzz groups	60

No.	Content Outline	Teaching and Learning Method	Time (min)
2.2	The curriculum defines the character of the institute and the study program. It should guide the stakeholders to make decisions about the institute/study program based on the curriculum; e.g. should I select this institute/study program to further my career, should I recruit an employee from this institute/study program.	As above	As above

5. Guidance notes to instructors

Provide example scenarios to highlight the key points. For example, discuss the situation where

- a teacher retires and a new teacher takes over, in the absence of a curriculum.
- a student wants to know which is the best institute that will meet his/her requirements (these requirements may be educational, social, career, etc.)

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: To analyze whether one's own curriculum meets the needs and goals of the institution

Notes for Topic 2

Why a curriculum?

A study program without a curriculum would be like a 'ship without a rudder'. Different teachers will teach different content, depending on the importance that they attach to the content that they teach. As a result, within the same study program, different material that the different teachers teach may not lead to a common goal.

Further, the students may not know what exactly they should study and how their learning will direct them to achieve the intended learning outcomes of the study program.

Also, when it comes to assessment, both the students and examiners will not know the relative importance of the content that should be assessed and how to tailor the assessment to ensure that those who pass can be certified to have achieved the overall goals of the program.

Thus, rather than letting individual teachers decide what and how they should teach and assess, it is imperative that there should be a collective decision by, not only teachers but all stakeholders (e.g. teachers, examiners, education experts, employers of the graduates, funders of education, etc.), as to what and how lessons should be taught and assessed. Curriculum is the document that encapsulates such a collective decision.

Task: Take a curriculum that you have been involved in and analyse its contents to determine to what extent its contents reflect the combined decisions of all the stakeholders. Give reasons as to why you think so.

Advantages and disadvantages

i. Advantages of a curriculum

Following are some of the advantages of a curriculum. These advantages, you may reckon, are somewhat inter-related.

A curriculum:

(a) offers a uniform framework to base all educational activities
(b) provides clarity of direction to learning for students, teachers and assessors
(c) directs and assists students when selecting a particular study program
(d) makes it easy to compare between comparable courses
(e) promotes assessment of learning outcomes; i.e. the suitability of the product
(f) sets the standard against which a study program can be evaluated
(g) provides a framework to assure quality

(h) facilitates student transfer between institutes/study programs
(i) provides a blueprint on which further improvements to the teaching and learning, and assessment can be made
(j) guides an employer or a postgraduate program to select a suitable candidate

Task: Take the curriculum that you selected and discuss with reasons as to how well the above advantages are applicable to it.

ii. Disadvantages of a curriculum

The disadvantages of a curriculum are few and far between. The main disadvantage that is often directed against curricula is that the curriculum curtails academic freedom. The proponents of such criticism argue that the learner and teacher autonomy as to what and how to learn, teach and assess is undermined by a curriculum.

This certainly will happen if the curriculum is too prescriptive. So, a balance should be achieved, by the curriculum writer, between what and how to be taught and assessed and the opportunities offered to the individual learners and teachers to apply their own creativity in achieving the learning outcomes as stipulated by the curriculum. This balance is usually achieved by providing only the broad outline of the content and by providing a menu of methods, where applicable, for the individual teachers and learners to select depending on their likes and dislikes, teaching and learning styles, and available resources.

Task: Look at the curriculum outline for this topic in this manual; i.e. the table under topic 2. Explore how the above disadvantage has been countered here.

Topic 03: Why is Curriculum Development and Revision in Focus Now?

1. **Aim:** To sensitize the participants to the dynamic nature of the needs of the society that the emerging graduate is expected to fulfill, so that the participants are empowered to cater to those demands through appropriate development and revision of curricula.

2. **Learning Outcomes:** Participants would be able to
   3.1 Discuss the fluidity of the focus of Higher Education from a historical and a socio economic standpoint
   3.2 Appreciate the dynamic nature of information explosion
   3.3 Recognize and acknowledge the essentiality of the curriculum to reflect the competencies that the labor market requires

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - Sample of an assessment in the above curriculum

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
3.1	• Simplicity of the value-based society in the past • Ease with which the graduates in the past could fulfill the needs of simplistic, value-based society • Complex and dynamic nature of the current societal needs, driven by consumerism • The increasing and complex demands placed by the modern society on the graduate • The necessity of the curriculum to prepare the graduate to meet the above demands	Brainstorming Snowballing Buzz groups Flow charts	60
3.2	• On the one hand, information that the graduate needs to fulfill the complex societal needs cannot be assimilated within the undergraduate study period • On the other hand, even the information imparted during the undergraduate period may become obsolete • Hence, the graduate needs to keep on learning, and the curriculum should ensure that the graduate is capable of lifelong learning	Brainstorming Snowballing Buzz groups Flow charts	60

No.	Content Outline	Teaching and Learning Method	Time (min)
3.2	• Pressure to change - National relevance and benefit - Stakeholder expectations - Changes in Institutions - Changes in students - Research in teaching and learning • For such lifelong learning the pivotal role that IT plays.	As above	As above
3.3	• The industry needs to fulfill the expectations of the society • Thus, the industry will seek employees who have an appropriate graduate profile to fulfill the societal needs • As a result, the labor market can only accommodate individuals with the appropriate graduate profile that will meet the needs of the society.	Brainstorming Flow charts	60

5. Guidance notes to instructors

Impress upon the participant the fluidity and dynamicity of the industry and labor market need to be matched by the higher education system to produce graduates with appropriate graduate profiles. Flow charts can be used to display the links between industry, labor market, graduate profile and the curriculum.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Select a subject that you teach and analyze how this subject has evolved over the past three decades. Discuss whether the study program has been revised to accommodate this evolution.

Notes for Topic 3

Below is a section from a national report on higher education in the UK published in 1996. Although it is highly recommended to read the entire publication, we consider it mandatory for you to read the following excerpt, which explains the key concepts discussed under this topic. While reading reflect on the extent to which the content of this document is relevant to the Sri Lankan Higher Education system.

Further Demand for Higher Education

6.3 In considering the future demand for higher education we looked at a range of evidence which enabled us to address:

- the economic factors affecting demand for those with higher education qualifications;
- possible scenarios of demand for higher education;
- how the demand for higher education should best be reflected in determining the size and shape of higher education.[1]

Economic factors affecting demand for those with higher education qualifications

6.4 The future demand for those with higher education qualifications will be shaped by the changing structure of the national economy and the labour market, which in turn will be responding to changes in the world economy and the associated competitive challenges. These forces will find their response in the choices made by individuals about participation in higher education and in employer demand for lifelong learning opportunities on behalf of their employees.

The changing structure of the national economy

6.5 The introduction of state education more than a century ago was fundamentally a response to the developing needs of the economy. The history of the last century has been marked by the progressive extension of state education not only as something which is socially desirable and good in its own right, but in response to the needs of an economy which, to sustain its markets, has had progressively to provide more advanced goods and services. The 20th century has seen a remarkable change in the structure of the national economy away from the extractive and basic industries and towards activities characterized by the intensive use of human capital, including advanced manufacture, the creative development of new products, and major new services.

6.6 Powerful world economic forces inescapably tie the United Kingdom (UK) more fully into the world economy. One phenomenon is the emergence of the global corporation locating and relocating its operations to wherever there is greatest relative advantage, whether in accessing markets or in accessing the factors affecting production, including in particular the quality of the labor force.

6.7 The UK, in seeking to provide its people with a high and improving standard of living, will be able to do so and remain a major economy only if its people are highly educated and well trained.

It must match proportionately the investments made in their people by other nations, and the volume and the quality of their outputs from such education and training. A decade ago we had fallen well behind many other countries of Western Europe in the provision of higher education. Even now, after participation rates by young people have doubled, and the target set by the last Government for a third of young people to participate in full-time higher education by the year 2000 has been largely met, our levels of participation remain behind the United States and Japan. However the stock of graduates in the labor market compares well with many European countries in part because of high graduation rates.[2] There is a long term expectation of growth in higher education in many countries, especially those of the Pacific Rim. Our degree programs, whilst of high quality and comparable standards, are in the main shorter (other than in Scotland) than those of almost all other nations, largely because of the very specialized nature of the A level examination system.

6.8 There is international consensus that higher level skills are crucial to future economic competitiveness:

'The direction is universal participation: 100 per cent participation with fair and equal opportunities to study; in some form of tertiary education; at some stage in the life cycle and not necessarily end on to secondary education; in a wide variety of structures, forms and types of delivery; undertaken on equal terms either part-time or full-time; publicly subsidized but with shared client contributions; closely involving partners in the community; serving multiple purposes – educational, social, cultural and economic'[3]

6.9 Our visits overseas suggest that, in the long term, other nations will increase their investment in higher education to sustain their economies. There is some emerging economic evidence to support

such an approach. First, that countries which are the first to develop new research and technology capabilities gain a long term advantage over their competitors.

Secondly, that *'the weight of evidence is increasingly that education is positively associated with income growth and higher education seems to be the most relevant educational variable in more developed countries'.* As a matter of economic strategy, we must match international levels of investment to anticipate and respond to the changing structure of the international and national economy.

The changing requirements of the labor market

6.10 Labor market requirements for those with higher education qualifications are changing dramatically. Many of the employer organizations which gave evidence to us support this view. This will affect overall demand. The Confederation of British Industry told us:

'as the economy and organizations change, the areas in which graduate skill and qualities add value will multiply...large numbers of graduates are adding value not just in expanding numbers of traditional graduate jobs but also in a widening range of previously non-graduate roles'.[4]

6.11 There is room for debate as to whether, following the major expansion in higher education that has taken place over recent years, there is need in the immediate future for further expansion and whether the labor market could absorb further increases in the numbers of conventional graduates. A study of the likely future labor market needs for highly skilled workers by the Institute for Employment Research (IER) at the University of Warwick looks ahead to the year 2000.[5] It considers in some detail the likely changes to occupational structures, based on changes in the recent past. The IER research concludes that, up to the year 2000, labor market requirements will largely be met by the current level of higher education participation.

6.12 Another view put to us is that the UK's chief economic need is not for more people with graduate qualifications but rather for more people with lower level post-school qualifications. This view draws on evidence that graduates are now being employed in jobs which were traditionally done by non-graduates, raising the possibility of their under-utilization, and on the longstanding perception that the UK's comparative international weakness lies at the technician rather than degree level.

6.13 It would indeed be surprising if the labor market did not need time to respond fully to the increased supply of those with higher level qualifications. We are persuaded that jobs are being progressively redefined to utilize graduate skills:

- a recent study for the Department for Education and Employment (DfEE) showed that, even when graduates were recruited into traditionally 'non-graduate' jobs, a large majority (65 per cent) of managers who had taken on increased numbers of graduates thought that the jobs had improved because they were being undertaken by a graduate;[6]
- research by the National Institute of Economic and Social and Research shows that some sectors of the economy have been able to deal more flexibly with additional graduates than others and that redesigning jobs can enable graduates to add value in traditionally non-graduate jobs;[7]
- respondents to our employer questionnaire suggest that *'graduates, as a proportion of total employees, will continue to grow'* and that *'there is scope to increase the proportion of those with first degrees in some industries, although this will partly depend on the response of higher education to employers'*;[8]
- Swedish research shows that flexible organizations are more likely to thrive in the international marketplace and that the key to their flexibility is the extent to which they employ highly skilled workers;[9]
- Japanese and USA experience demonstrates an ability to make good use of much higher numbers and proportions of graduates in the economy than is traditionally the case in the UK. Even in the USA, where some 60 per cent of the population has some experience of higher education, graduates attract significantly higher salaries than non-graduates, suggesting that their employers continue to regard them as bringing extra value;[10]
- a survey of graduates by the University of Central England points to strong demand from employers for graduates with the right qualities, notwithstanding recent increases in the flow of graduates to the labor market;[11]
- public policy decisions are transforming certain professions. For example, we were told that in a health service with a new focus on primary care, nurses and those in professions allied to medicine will need the knowledge, skills and aptitudes typically acquired in higher education.[12]

6.14 As to the demand for more people with advanced technical training, we agree that this is an area of national need. We believe that much of the further growth of higher education, at least in the short term, should be in the Higher National Certificate, the Higher National Diploma and other analogous awards. We reflect this in our proposals for the structure of qualifications in Chapter 10 and for the pattern of institutions in Chapter 16. It is expansion at this level that has particularly characterized recent Scottish experience, where participation by young people has reached almost 45 per cent, significantly ahead of England and Wales.

6.15 Chapter 9 also explores in more detail the views of employers about the range of skills and attributes which they require from graduates; and how those views can better be reflected in higher education, based in part on the questionnaire which we sent to a sample of employers.[13] We emphasize in Chapter 12 the importance of higher education institutions ensuring that they are well-informed about local and regional employers' requirements.

Economic benefits to individuals from participating in higher education

6.16 An assessment of the economic benefits to individuals from participating in higher education has been central to our work. These benefits are probably the most significant economic factor affecting demand. They are substantial and consist of:

- employment rates which are, on average, above those for people who were qualified to enter higher education but did not do so;
- pay levels which are, on average, above those for people who were qualified to enter higher education but did not do so.

6.17 We drew on three important studies to assess these benefits and their possible impact on demand:[14]

- research by Analytical Services within the Department for Education and Employment. This studies graduates across a number of economic cycles, from those graduating in 1971 to those graduating in 1995. The 1989 to 1995 results are shown in Report 7, 'Rates of return to higher education';
- research by the Policy Studies Institute (PSI) which looks at young graduates (at ages 23 to 24);[15]

- research by the Institute for Fiscal Studies (IFS) which uses data for those born in 1958 recorded in the National Child Development Study and examines those who were graduates at the age of 33.[16]

6.18 These three studies show evidence of strong and persistent economic benefits to those with higher education qualifications. First, the Analytical Services research shows that employment rates are higher for those with such qualifications than for those without, particularly for women (Chart 6.1). Employment benefits are apparent for men with higher education qualifications in their mid-30s onwards, and rather earlier for women. The IFS and PSI reports broadly support these findings for the particular ages they study.

Topic 04: Resistance and Barriers to Change of Curricula

1. **Aim:** To enable the participants to be self-critical and reflective, so that they are able to figure out their standing in the current higher educational context.

2. **Learning Outcomes:** Participants would be able to
   4.1 Analyze and identify why the Sri Lankan Higher Education sector is yet not abreast with the global trends
   4.2 Perform a gap analysis in one's own discipline by comparing the current curriculum with that of a high ranking program in the world/University (gold standard)

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - A curriculum of a high ranking study program of their discipline

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
4.1	• The factors that make change essential • Why the Sri Lankan HE sector is not abreast with the global trends can be attributed to two main groups of reasons: (a) Lack of physical resources (b) Lack of the internal drive and motivation of the stakeholders • Resistance to curriculum change - Time investment - No recognition - No tracer studies - Low knowledge about stakeholders and expectations - No training needs analysis - "All is well" syndrome - Norm referenced assessment – hide changes in student performance, hide declining standards • How have successful study programs both local and international overcome the above impediments?	Brainstorming Snowballing Buzz groups Flow charts	60

No.	Content Outline	Teaching and Learning Method	Time (min)
4.2	• What are the attributes of the current product of the study program? • What should be the attributes of the program outcome (graduate profile) of the study program? The participants should generate a suitable graduate profile (if not already available) of the study program using the participants' contextual understanding of the Sri Lankan situation and the global standards • What is the gap? The participants should use the findings of the above two steps to identify the gap that they need to bridge if they are to uplift their study program to the required standard • What are the factors that have given rise to this gap? • What factors prevents this gap being bridged; i.e. barriers and resistance to change?	Perform a gap analysis for one's own study program either individually or in a small group	120

5. Guidance notes to instructors

At the end of this topic make sure that each participant has adequately analyzed their study program and identified the gaps. They should also be able to identify the reasons for the persistence of these gaps.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Select a study program that you are involved in and perform a gap analysis. Identify why these gaps have arisen and the reasons why these gaps are not bridged.

Notes for Topic 4

Though many acknowledge a need for curriculum change only a few succeed in implementing a curriculum. The reasons are multi-factorial. Arguably the three reasons described below play a greater role.

Why Curriculum Change Is Difficult — and Necessary

Planning for Instructional Improvement in Independent Schools
Olaf Jorgenson
Summer 2006

A speaker I once heard at a conference on curriculum development, compared instructional change to moving graveyards; nobody pays much attention until you try to do it! Years later, after serving in several independent and public schools that collectively embrace a long tradition of academic freedom, this metaphor rings true. But I've discovered that faculty resistance to formalized instructional improvement and curricular change builds not because teachers lack desire or capacity to improve, but because, collectively, teachers value their autonomy, worry about their ever-increasing workload and time constraints, and are, by nature, averse to risk and change.

Why is instructional change necessary in our schools? First, because in the past decade there has been an upwelling of developments featuring research-based, classroom-proven "best practice" teaching strategies — accompanied by pioneering discoveries about learning and learners — which are simply too compelling to ignore. The stand-and-deliver model of teaching and learning, with the teacher at the center of instruction, is increasingly incompatible with today's youth; in some schools, it is giving way to more varied methods founded on research about how children learn.

Secondly, the students who attend independent and public schools alike come with more learning challenges than ever before, and the trend shows no sign of reversing (Evans, 2004). The changing needs of children demand that teachers expand their role beyond purveyors of information, to become facilitators, co-investigators, guides, and coordinators. Independent school educators need to evolve with the emerging research on teaching and learning, and adapt their craft to the changing needs of students. Academic freedom has its place, of course; but, frankly, we know too much to

ignore what is possible for our students. And, thirdly, these changes are taking place rapidly, against a backdrop of the shift from an industrial economy to one based on the instantaneous, global traffic of information. Today's schools are not designed to prepare children for our explosive knowledge economy or its demand for outcomes over process; the traditional model of teachers dispensing discrete, disconnected bodies of information (curricula) presented in isolation from the other subject areas, is increasingly obsolete as a way to prepare children for our world. But for educators to simultaneously recognize these shifting dynamics, figure out how to address them through instructional change, and then implement meaningful, sustainable changes, is a daunting task. Teachers and school leaders today must, as Tony Wagner puts it, "rebuild the airplane while they're flying it" (Wagner, 2006).

Source: http://www.nais.org/publications/ismagazinearticle.cfm?ItemNumber=148786

Task: Discuss to what extent that the above three reasons are applicable to your situation. Are there other reasons that are applicable to your situation?

Below are a few more factors that have been identified after a survey in Australasia that make curriculum change difficult.

The following are the factors affecting curriculum change:

A. Influential or outspoken individuals.

B. Financial pressures, including resource availability.

C. Staff availability or workload.

D. Employer or industry viewpoints.

E. Current or prospective student viewpoints.

F. Student abilities or limitations, or intake considerations.

G. Pedagogical argument or academic merit.

H. University or Government requirement or regulation.

I. Professional accreditation needs, or syllabi set by professional bodies.

J. Academic “fashion”, including the desire to remain in step with other institutions.

Source: Grubay P, Moffaty A, Søndergaardy H, Zobelz J. (2004). What drives curriculum change? A paper presented at the Sixth Australasian Computing Education Conference, Dunedin, New Zealand. Available at: http://crpit.com/confpapers/CRPITV30Gruba2.pdf (Accessed on: 29 May 2012).

So, are these arguments against curriculum change tenable?

Task: Read the following excerpt and discuss how acceptable these arguments are?

By comparison, children in independent schools are more homogeneous: in prep schools, highly competent and motivated with involved parents; in therapeutic schools, uniformly grouped and heavily resourced; and so forth. This might explain why training in instructional methods — beyond subject area expertise and a pedigree from a top-tier university — has not customarily been expected of independent school teachers. Added to this is the appeal of "academic freedom," the mantra and cherished rallying cry especially among teachers at the secondary level in independent schools, where teacher licensing, prescribed curricula, lesson planning, an articulated scope and sequence of instruction, and other such perceived bureaucratic confinements have not been the norm.

But times, and children, are changing. Students come to independent and public schools alike less prepared to learn, contending with more (and more complex) personal challenges (learning differences dyslexia, for example), and with less intact family support than in any previous era in our nation's history (Evans, 2004). At the same time, we know more about teaching and learning than ever before. Consequently, the militant call for academic freedom in independent schools is less and less defensible as a reason not to actively pursue strategies for instructional improvement.

FADS THEY ARE NOT:

ADVANCES IN WHAT WE KNOW ABOUT TEACHING AND LEARNING

As Tony Wagner (2001) observes, teachers are like crafts persons: the profession "attracts people who enjoy working alone and take great pride in developing a degree of expertise and perfecting 'handcrafted products'" — their special units and courses — whose identity may be threatened by attempts to impose structure on what they love to do. "The educational 'fads of the month' that have swept through schools for the past 30 years have served to reinforce the belief of many teachers that innovations are the fleeting fancy of leaders who are here today and gone tomorrow — and so are not to be believed" (Wagner, 2001, 378).

But research on teaching and learning has advanced in the last decade perhaps more than in the previous half-century combined, and the resulting discoveries contribute to a growing foundation

for "best practices of instruction," most of which find their way into teacher certification programs for public school educators and eventually into the national education conference circuit. However, unless veteran independent school educators actively pursue innovative advances in the profession, they may be unaware of an array of research-based "best practice" methods that are transforming teaching and learning in classrooms nationwide, in public and private schools alike.

Among those research-supported advances in teaching and learning that have proven their value in the classroom are the theory of multiple intelligences, differentiated instruction, formative and "backwards design" assessment, opportunity to learn (OTL), cognitive neuroscience ("brain research"), demographics and learning, and inquiry science methods (Please see the full article using the URL below). This sampling is a fraction of the work completed and underway to assist teachers in better serving children and families in our schools — and it's important to acknowledge that many independent educators are already employing updated research-based best practices in their work today, and that numerous independent schools are in fact pushing for instructional change. Still, many are not.

Source: Adapted from:
http://www.nais.org/publications/ismagazinearticle.cfm?ItemNumber=148786

Topic 05: How to Overcome Barriers: Success Factors in Curriculum Change

1. **Aim:** To enable the participants to be self-critical and reflective, so that they are able to figure out their standing in the current higher educational context.

2. **Learning Outcomes:** Participants would be able to
   - 5.1 Reflect on the continuing existence of the gap
   - 5.2 Discuss the factors that contribute to the maintenance of status quo
   - 5.3 How can the gap be bridged?

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - A curriculum of a high ranking study program of their discipline

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
5.1 & 5.2	• Why the gap is sustained? There may be various reasons like the leadership, bureaucratic the way of thinking of the stakeholders or the lackadaisical attitude of the major stakeholders of the curriculum. • It is important to note that even if gaps are bridged, if the factors that sustain the gaps are present, the change cannot be maintained.	Brainstorming Snowballing Buzz groups Flow charts	60
5.3	• What are the measures that can be taken to address the gaps? Some common measures would be staff development to inform the staff about the benefits of bridging the gaps, incentives for the staff to make the necessary changes to the curriculum, institutionalizing the organizational structure to effect and sustain change, changing the organizational culture, and making changes in the thought process of the institutional leadership. • Participants should identify the pros and cons of each of the above measures.	Brainstorming Snowballing Buzz groups Flow charts Individual and Group work	120

No.	Content Outline	Teaching and Learning Method	Time (min)
5.3	• Success factors for change - Establish a consensus of the need for change - Foster openness to new and other people's ideas - A clear purpose, appropriate development process and appropriate team - Have senior management and ownership - Secure time and resources - Acknowledge and manage conflicts of interest - Support the staff to learn their new roles - Help students adjust to new expectations - Monitor progress and adjust	As above	As above

5. Guidance notes to instructors

Impress upon the participants that there is no one way to overcome the barriers to change. The best method(s) to overcome the barriers will depend on the context of a given situation.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Develop a strategy to overcome the gaps identified under topic 4.

Notes on Topic 5

You may have realized that the greatest resistance for change comes from within the individuals of an academic institute. Fuelling such resistance is the feeling that curriculum upgrading involves more work as exemplified in the following excerpt. How can we convince the teachers that curriculum revision though involves more work is an activity that is mutually beneficial – to teachers and students?

INSTRUCTIONAL IMPROVEMENT AS "MORE WORK"

How do independent school leaders help faculty colleagues develop a receptive attitude toward curricular and pedagogical change? The most immediate — and most commonly reinforced — perception of instructional improvement is that the process leading to it — consisting of reflection, dialogue, research, experimentation, and ongoing repetition of each phase of the cycle — involves "more work." In many ways, it is demanding and time-consuming to engage in self-evaluation, to make time to meet and compare notes with colleagues, to try new approaches and continually work to refine and improve them. Unfortunately, most schools (public and private) tend to launch into ambitious instructional improvement programs by rallying teachers toward noble change initiatives in "one-shot" in-services hosted the week before school starts, with little or no follow-up during the year; or in grueling after-school committee work that usually generates a massive curriculum document that few teachers actually ever consult again once the committees disband.

To the contrary, effective instructional improvement should focus on the *process*, rather than the *product*. It is in the collaborative dialogue exploring, considering, and refining a school's methods — the journey toward better teaching — by which teacher professional growth takes place; surely not merely in following the outlines and maps in the final polished and articulated curriculum document.

It does take planning and a commitment among and between teachers to reflect on and share their instructional practices, set goals, and seek resources to meet them. Once it's carefully planned and strategically launched, however, instructional improvement can be both rejuvenating and revolutionary. It can unify and support teachers in a way that, in the long run, makes the teaching life easier and more rewarding.

THE *REAL* PROBLEM IS CHANGE ITSELF

Schools and educators are suited to slow change. Much more like clergy or families than businesses — because teachers are charged with raising the young and cultivating values that sustain — the work of schools and teachers is intensely personal and demands a degree of continuity and posterity. In this way, resistance to change in schools is normal and, to a degree, necessary; there needs to be a balance between a long-lasting, predictable ethos that transcends generations and the healthy adaptations that acknowledge different needs from one generation to the next. In this sense, change can be interpreted two ways: as a risk, insult, or threat to the traditions and autonomy of teachers; and, simultaneously, as an opportunity for reflection and improvement on the status quo (Evans, 2004).

Source: http://www.nais.org/publications/ismagazinearticle.cfm?ItemNumber=148786

If the resistance to change is so deep-rooted, then any change of a curriculum needs to be carefully planned. What are the key ingredients that such as planning process should contain?

PLANNING FOR INSTRUCTIONAL IMPROVEMENT

While preparing to design and implement an instructional improvement program — planning change — independent school educators need to acknowledge a faculty's right to have three understandings made clear from the very start of the process: *Why is a change necessary? What are we changing to? How will we get there?* (Evans, 2004) The answers to these questions will vary from school to school, but in addressing the first one, Lois Hetland of the Harvard Graduate School of Education puts it compellingly as follows: "

"Learning something new means questioning those things we do well automatically. It means questioning our tacit expertise....It is the willingness to risk some clumsy movements that allows us to become explicit and intentional about what we do. And that, as far as I can tell, is how we can best honour the mystery of learning in our teaching (1996)."

In this spirit, the goal for faculty members is to create conversations about what students and teachers (in that order) need from instructional design and delivery, and how they can best be enriched and challenged throughout the course of their experience at the school through

structuring and delivering curriculum and instruction. Administrators and teacher leaders charged with facilitating successful change measures will necessarily strive to remain relentlessly optimistic about the outcomes of the reflective review process, while both anticipating and respecting some mistakes and frustration, which are natural aspects of the change experience.

Source: http://www.nais.org/publications/ismagazinearticle.cfm?ItemNumber=148786

It is clear that any effective strategy for changing a curriculum should be sufficiently attractive to the teachers, so that they are convinced that the work that they do is mutually beneficial. Thus, any strategy to changing a curriculum should be accompanied by a strong staff development process.

Task: Discuss how well the following strategy will be appealing to the staff.

FIVE STRATEGIES FOR IMPLEMENTING INSTRUCTIONAL CHANGE

Contingent upon adequate time (weeks, months, even years) for preparation, communication, and planning, here are strategies that the school leaders I interviewed and I have used in different school settings to enable effective changes in curriculum and instruction.

- **Aim for "subtle shifts."** Changing curriculum and instruction should be a gradual process, a matter of modifying single lessons rather than entire units. Successful instructional change is a matter of reflecting, planning, communicating, planning some more, making a "subtle shift" in practice, reflecting some more, and then repeating the process.[1] At Hawaii Prep, preparing to expand our kit-based science program at our K-8 campus, we sent a team of teachers, administrators, and community members to a weeklong training program (Leadership Assistance for Science Education Reform at the Smithsonian Institute). Rather than purchasing kits for science instruction in every classroom in grades K-8, we're inviting teachers to try individual units on a pilot basis, and, so far, several teachers have plunged into the program on their own initiative. In time, we believe others will be drawn to kit-based science by the infectious enthusiasm and by the success they witness in their colleagues' experiences — but it won't be a curriculum program that's forced upon everyone all at once, which would have a low threshold for buy-in among our talented and accomplished (and autonomous) faculty.
- **Start small.** Work with individual teachers at first, or with small clusters of motivated individuals who buy into a proposed change and are excited to become experts in the new process and practices.

- Enthusiasm fuelled by early successes and spread by word of mouth among students and teachers is contagious! This strategy shortcuts all the energy and time spent trying to convince skeptical, reluctant, and resistant faculty members to jump aboard an "untested" change. Build it — with "it" meaning an instructional innovation that works — and they will eventually come.

- **Be patient.** Instructional change agents should anticipate anxiety. Individuals respond uniquely (at times unpredictably) to new ways of doing things, no matter how sensible or appealing the new ways might be. Expecting colleagues to hold to the same levels of performance and pliability one has for oneself leads to repeated frustrations and slows the process on a number of levels. Over time, favorable changes unite a critical mass of teachers whose collective enthusiasm overcomes initial resistance and gently diffuses the pervasive this-isn't-how-we've-always-done-it attitude. It takes time — often years — to successfully implement instructional change across a department, division, or entire school.

- **Make time for instructional review within the school day.** Schools that place a high value on curriculum review and professional dialogue about instruction build it into the workday, rather than adding more meetings during the afternoons, evenings, or weekends when many teachers are involved in co-curricular activities or wish to enjoy precious family time or time alone. This is a vital consideration. Above all else, teachers need time to realize meaningful instructional improvement. The simplest way to create more time is to extend the length of the school year and add periodic in-service days for articulation; but, in some independent schools, this order of change could provoke a battle that might then undermine the good intentions of a curriculum review before it even gets underway. At other schools where I've worked, faculty members were afforded opportunities for collaboration on a regular basis when the school redistributed instructional time incrementally. For instance, adding two minutes to the beginning and end of the school day, and one minute less at the beginning and end of lunch, is hardly noticed, but it adds 30 minutes per week of instructional time in schools with a five-day week. This would allow for 60 minutes of instructional review every two weeks to be built into the regular workday, with a minimal disruption to the existing schedule.

- **Provide ready access to the resources necessary for change.** For example, a number of excellent organizations host websites and conferences dedicated to instructional improvement, including the superb resources provided by the Association for Supervision and Curriculum Development

(*www.ascd.org*). It's important to anticipate increased needs that will emerge as a consequence of instructional change. At Hawaii Prep's K–8 campus, for example, with the move to more kit-based science instruction this year, we provided a part-time resource teacher to assist with setup and materials support to facilitate the new program's implementation. While the new position is a strain on the budget, we see it as a resource essential to the success of the initiative — and balanced against the big picture of potential benefits for children and teachers across the years ahead, plus considering the hundreds of hours already invested in the instructional change, a part-time resource teacher is a small price to pay. Plan ahead and make sure your new programs (and teachers) aren't starved for support.

Following these core strategies, curriculum change and instructional improvement may not be quite as complex or contentious as moving graveyards. But it will certainly safely bury a lot of fears. Ultimately, we are obliged to find ways to teach so that opportunities to learn are maximized. The children and families we serve deserve no less.

Source: Adapted from http://www.nais.org/publications/ismagazinearticle.cfm?ItemNumber=148786

Module 2: Principles of Curriculum Development

No	Topic	Description
1	**Module Title**	Principles of Curriculum Development
2	**Prerequisites and Co-requisites**	Engage in teaching (e.g. conduct lessons in theory and practical) in a formal higher education system and has followed Module 1 above
4	**Module duration**	12 hours (2 days)
5	**Module Aim**	To teach the types of curricula and the concepts of curriculum development, so that this knowledge could be utilized to develop/revise a curriculum in one's own context
6	**Objectives and Learning Outcomes**	1. Explain and differentiate the types of curricula 2. Define and apply constructive alignment to one's own situation 3. Explain the process of introducing/maintaining integration in a curriculum 4. Discuss and differentiate outcome and input based curriculum development
7	**Assessment Strategy**	Two contextual assignments
8	**Syllabus**	1. Types of curricula 2. Concepts of curriculum development
9	**Suggested reading**	• http://www.assessment.uconn.edu/primer/taxonomies1.html • http://www.acu.edu/academics/adamscenter/course_design/taxonomy/instructional/taxonomies.htm • http://www.ascd.org/publications/books/103011/chapters/What-Is-Integrated-Curriculum%C2%A2.aspx • http://www.amdin.org/documents/d00104/SAMDI_TOT_Module_3.pdf

Topic 06: Types of Curriculum

1. **Aim:** To impart the knowledge on the principles of curriculum development, so that the participants are able to utilize this knowledge to develop, design, and revise curricula, to suit their setting in order to meet the societal demands.

2. **Learning Outcomes:** Participants would be able to
   6.1Explain the meanings of Planned, Taught, Learnt, Assessed and Hidden curriculum
   6.2 Explain why the above should be aligned
   6.3 Analyze one's own curriculum and determine the extent of alignment

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - A curriculum of a high ranking study program of their discipline
   - Current literature on subject specifics
   - Completed assignment for topic 4
   - A list of stakeholders for the specific curriculum

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
6.1	• ***Planned curriculum*** is the curriculum that has been developed and documented by a curriculum development committee (CDC) of a study program, and approved by the Faculty Board(s), the Senate and the Council of the University, and the Standing Committee of the University Grants Commission. This is the curriculum on paper. Ideally, this should be this, and only this, that should be taught, learnt, and assessed. • However, the other terms that describe curricula (e.g. taught, learnt, hidden, assessed curricula) have come into being because the planned curriculum is not the only curriculum that is taught, learnt and assessed. • ***Taught curriculum*** comprises the learning outcomes, subject content, and teaching/learning methods that are used to deliver the curriculum.	Brainstorming Snowballing Buzz groups Flow charts Individual and Group work	120

No.	Content Outline	Teaching and Learning Method	Time (min)
6.1	• ***Learnt curriculum*** is the curriculum that the students learn irrespective of whether this is planned or taught. • Learnt curriculum is the most crucial curriculum, as that is what the students would have achieved through the study program. • Why is there a 'learnt curriculum'? Reasons are many. Poor teaching, poor assessment, and in the eyes of the students there may be more important subject matter that is not taught in the course. • ***Hidden curriculum*** is the learning that the student achieves that is not either planned or taught by the specific study program. Hence, the hidden curriculum is a part of the learnt curriculum. • Thus, the 'learnt curriculum' has two parts: the part that is learnt through the curriculum that is delivered and the part learnt that is not delivered; i.e. the hidden curriculum. • ***Assessed curriculum*** is the curriculum that the students are assessed on throughout the curriculum, to certify that they have achieved the learning outcomes of the study program and if necessary ranked. It is likely that only the assessed curriculum will be learnt by the students.	As above	As above
6.2	• The planned, taught, and assessed curricula should overlap (or could be superimposed) with each other; i.e. they should be identically the same. In this situation the curriculum is said to be 100% aligned. Since this has been achieved through meticulous planning, the term 'constructive alignment' is used to denote the degree of overlap among the above three curriculum components. • Although, planned, taught, learnt and assessed curricula should be present and overlapping with each other, 'hidden curriculum' should not be ideally present, if the curriculum is well planned, taught and assessed. This said, it is extremely difficult to eliminate the hidden curriculum as the student aspirations vastly vary. Said differently, hidden curriculum represents what is 'caught' as opposed to what is 'taught'.	Brainstorming Snowballing Buzz groups Flow charts Individual and Group work	120
6.3	• Planned curriculum should match with the needs that the study program should cater to. These needs should be identified ideally through a 'needs analysis' conducted using the stakeholders of the curriculum.	Group and individual work	120

No.	Content Outline	Teaching and Learning Method	Time (min)
6.3	• Then, the planned and taught curricula should be compared for alignment. • Next, taught and learnt curricula should be investigated for alignment. • Finally, taught and assessed curricula need to be compared for alignment.	As above	As above

5. Guidance notes to instructors

Make sure that the participants apply the principles learnt in this session to their own curriculum.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Analyze one's own curriculum to determine the extent of alignment.

Notes on Topic 6

The content outline above provides the essence of the five types of curricula: planned, learnt, taught, hidden, and assessed. We have included this as this classification of curriculum types are the most suitable in our context. However, this is only one type of classification. For example, below is another classification that is slightly different to the one above.

Although there may be only one formal curriculum published by an educational institution, there are, in fact, other curricula students follow, including the Hidden Curriculum, Null Curriculum, Tested Curriculum and Electronic Curriculum. Each curriculum disseminates various and sometimes conflicting messages to students and affects their learning experience.

Written Curriculum

The Written Curriculum is the published curriculum that is part of the formal education. The Written Curriculum includes course objectives, course guides, lesson plans, course material and grading criteria. The Written Curriculum is supplemented by other types of curricula, such as the Electronic Curriculum. Although this is the official curriculum, it is often subordinated by other more powerful curricula.

Hidden Curriculum

The Hidden, or Covert, Curriculum refers to messages communicated by an organization that are implied. The Hidden Curriculum may have more influence than the Written Curriculum because it is based on the norms and values of the organization. The Hidden Curriculum includes ongoing school activities and routines that are not documented and can indicate unofficial preferences for certain subjects. The scheduling or prioritization of certain courses over others can point to a Hidden Curriculum that some subjects are not as important as others.

Null Curriculum

The Null Curriculum represents the material or subjects that are not being taught as part of the Written Curriculum. Due to limited resources or an emphasis on purely academic courses, not all

material or subjects will be taught. When subjects such as music or art are not included in the Written Curriculum and thus form part of the Null Curriculum, students may believe these subjects have minimal value.

Tested Curriculum

The Tested, or Assessed, Curriculum is the body of information on which students will be tested. Teachers may prefer to teach material that will be tested on state or school tests to improve their success rates. Teachers who put more emphasis on the Tested Curriculum may overlook the material prescribed in the Written Curriculum

Electronic Curriculum

The Electronic Curriculum includes all learning activities that are Internet-based. By acknowledging the existence of the issues to be considered with the electronic curriculum, educators must take into consideration the credibility of information on the Internet. Students must develop critical-learning skills to determine the quality of information they are researching.

Source: http://www.ehow.com/info_8013624_5-types-curricula-classroom.html#ixzz20ldfdlaO

In the above classification, considering this day and age, 'electronic curriculum' may be pertinent to consider. However, we do not think that a 'null curriculum' should be present in university education, as all that the study program wants to teach should be included in the planned curriculum. This said, a 'null curriculum' may also be prevalent sometimes due to resource constraints.

Task: Identify the dominant curricula in your study program. Justify why they have been included and should be sustained.

Topic 07: Concepts of Curriculum Development

1. **Aim:** To impart the knowledge on the principles of curriculum development, so that the participants are able to utilize this knowledge to develop, design, and revise curricula, to suit their setting in order to meet the societal demands.

2. **Learning Outcomes:** Participants would be able to
   7.1 Explain the three concepts – integration, outcome based and input based education
   7.2 Discuss and apply the three concepts to a curriculum in one's own context

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - A curriculum of a high ranking study program of their discipline
   - Current literature on subject specifics
   - Completed assignment for topic 6
   - A list of stakeholders for the specific curriculum

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
7.1	• Traditionally the subjects are taught in isolation, so much so, that the individual subjects could be considered as standalone curricula/study programs. One of the main problems with this model is that when the student is required to apply the subject content to a practical situation, they are unable to assimilate the learning from different subjects to solve the problems related to the said situation. If, however, the subjects are taught in the way that the material learnt can be put together to tackle a practical situation, this theory- practice gap can be bridged effectively. This is the reason why integration of learning, as opposed to disintegrated learning, is preferred. Integration can be horizontal or vertical integration. ***Horizontal integration*** is teaching and learning of subjects that are traditionally studied at the same time; e.g. biology is learnt with mathematics during the same semester in parallel.	Brainstorming Snowballing Buzz groups Flow charts Group and individual work	240

No.	Content Outline	Teaching and Learning Method	Time (min)
7.1	***Vertical integration*** is teaching and learning of subjects that are traditionally studied not at the same time; e.g. the fundamentals learnt in first two years will be applied during the courses such as internship and industrial training in the final year. • **Input-based education** determines the teaching and learning material solely based on the subjects; i.e. individual subjects determine what is to be taught. This education model assumes that when all the subject matter learnt this way is put together the product (i.e. the graduate) envisaged by the study program can be produced. Thus, it is a bottom-up process. This means that the objectives of the different subjects will be collected to determine the objectives of the study program. • **Outcome-based education (OBE)**, in contrast, determines the subject level learning outcomes (or objectives) based on the overall learning outcomes of the final product; i.e. the graduate. Thus, individual subjects will have to select their study material to fit into the specifications of the overall study program. In OBE, these specifications are identified in terms of competencies that the graduate requires, to tackle scenarios in the working world. Hence, in OBE, the study program is more in control of the product that it produces. • In OBE identification of intended learning outcomes (ILOs) at different stages of the study program including the outcomes for the final product is a must. Also, it is essential to understand the differences between learning outcomes and learning objectives, and their inter-relationship. As such training in writing learning outcomes and objectives using accepted taxonomies such as Bloom's taxonomy is an essential competency that a university teacher should acquire.	As above	As above
7.2	• What are the pros and cons of integration and disintegration? How are these pros and cons applied to your study program? • What are the pros and cons of input-based and outcome-based education? How are these pros and cons applied to your study program?	Group and individual work	120

5. Guidance notes to instructors

Make sure that the participants apply the above concepts to their own study programs.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Discuss how one's own study program can be improved to conform to an integrated and outcome-based program.

Notes on Topic 7

Curriculum Integration

Integration is one of the most misunderstood and misinterpreted terms used in curriculum development. Confusion surrounding integration can be largely avoided if one thinks clearly about the purpose of integration.

In disintegrated, discipline-based curricula disciplines/subjects are taught as standalone entities. The students are not shown the links between these disciplines. However, in real practice (i.e. in the workplace) these disciplines are applied together within a single task. Hence, in discipline-based, traditional teaching and learning the learners are expected to learn the disciplines individually and make the links between the disciplines on their own.

In contrast, in an integrated curriculum, the disciplines are taught such that the links between the disciplines are made explicit, so that when it comes to application in the workplace the students need not make much of an effort to figure out how the different disciplines should be combined before application.

First and foremost, it should be understood that discipline boundaries are all manmade. Disciplines boundaries or for that matter disciplines themselves never existed in nature. It is we humans, for our own convenience to study nature, who compartmentalized nature and created disciplines together with their boundaries. So, once understood, the content in the disciplines need to be put together to appreciate nature and apply the content to real life settings. If, however, the links between these disciplines are explicitly appreciated while learning, the later application of the content will be that much easier.

Thus, the prime purpose of integration should be to make the learners understand and appreciate how concepts taught and learnt by different disciplines are put together in real life applications. Then, the theory-practice gap could be bridged to a greater extent.

The content outline provides the two basic concepts of curriculum integration: horizontal and vertical integration. What approaches can be followed to implement these two basic concepts?

Task: Read ‘What is integrated curriculum?’ by Susan M. Drake and Rebecca C. Burns, given under suggested reading of this module

(http://www.ascd.org/publications/books/103011/chapters/What-Is-Integrated-Curriculum%C2%A2.aspx)

This chapter discusses three approaches to integrate a curriculum: mutli-disciplinary, interdisciplinary and trans-disciplinary. They can be viewed as hierarchical with multidisciplinary being the most basic and trans-disciplinary being the most advanced approach to integration.

Task: Study the table in this chapter and relate the following to the level of integration of a course that you are involved in.

- Organizing Center – This refers to how the knowledge is collated, arranged and presented to the learner. In multidisciplinary integration the discipline boundaries are apparent, while in trans-disciplinary integration the discipline boundaries are not apparent.
- Conception of Knowledge – While multidisciplinary integration believes that learning individual subjects and their connections serves best, trans-disciplinary integration is based on learning around real life tasks that do not specify disciplinary boundaries.
- Role of Disciplines – More prominent in multidisciplinary integration, and less prominent in trans-disciplinary integration. However, the quantum of learning that is transferred should be the same, whichever the approach of integration, although the learning is more application-based in trans-disciplinary integration.
- Role of Teacher – Multidisciplinary integration would require more subject-based specialists, while trans-disciplinary integration would require teachers who are not only subject specialists but also understands the process of learning.
- Starting Place – In multidisciplinary integration the starting place is the subject matter, while in trans-disciplinary integration it is usually the real life task.
- Degree of Integration – Basic in multidisciplinary and advanced in trans-disciplinary.
- Assessment – Reproduction of subject matter and procedures are stressed more in multidisciplinary integration, while accomplishment of tasks or application of the subject matter in real life context is stressed more in trans-disciplinary integration.

Here are three examples to exemplify the three approaches. Let us think about a study program that contains history, archeology and geography as disciplinary subjects.

In multidisciplinary integration these three disciplines will be taught and learnt as distinct subjects, but connections between the subjects will be explicitly made during individual lessons. This integration can be either horizontal or vertical.

In interdisciplinary integration, the same subject disciplines will be taught around organizing themes. The organizing theme in this example may be the different eras in Sri Lankan civilization; e.g. Anuradhapura era, Polonnaruwa era, Kandyan era, etc. However, disciplinary teaching and learning would still take place organized within the eras.

In trans-disciplinary integration, the disciplinary boundaries are blurred or not apparent. Thus, the organizing theme may be more practice based, such as an excavation of a site belonging to the Polonnaruwa era. Here history, geography and archeology are taught and learnt as they are applied to this practical situation; i.e. not as individual disciplines.

Task: Determine which approach has been mostly followed by your course? Or has your course not followed any approach?

Outcome-based education

What are outcomes?

Outcomes are broad competencies that the training program aims the graduate to achieve at the end of the program. These competencies will define the final product. Thus, the competencies need to be extracted by close envisioning the final product. For example, university of Sydney defines the final product using the following competencies or graduate attributes (Figure 7.1).

Figure 7.1: The Graduate Attributes of the Sydney Graduate

Source: http://www.itl.usyd.edu.au/graduateattributes/

Task: Discuss how relevant are these outcomes or competencies for your study program?

Task: Can you develop such an outcome-framework for one of the study programs that you are involved in?

How can outcomes be developed and used?

Outcomes should be developed using several sources. The diagram below (Figure 7.2) shows some of the sources that can be used to derive outcomes of a study program. Not only this diagram provides how outcomes can be developed, but it also shows what could be done with these outcomes, once developed; i.e. how outcomes could be put to use? For example, program outcomes can be used to determine module outcomes (including optional modules such as electives), module teaching and learning content and their assessment. Finally outcomes could be used as the framework to evaluate the module/study program; i.e. how well the study program/module has achieved its outcomes?

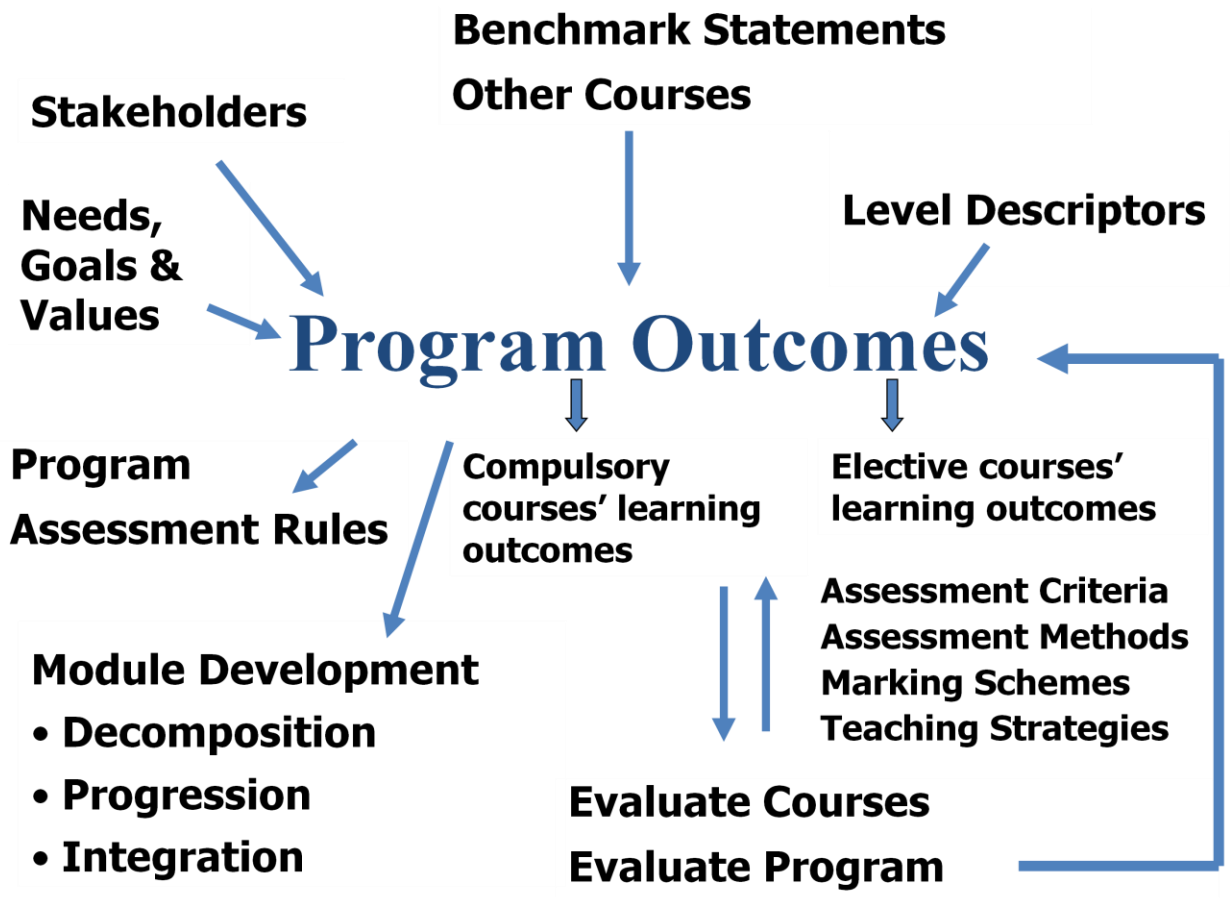


Figure 7.2: Sources and Uses of Program Outcomes

When modules and other course units of a study program are developed the content of each of the said modules or course units and their assessment need to be aligned with the overall program outcomes. As shown in Figure 7.3 below, this is called ‘constructive alignment’.

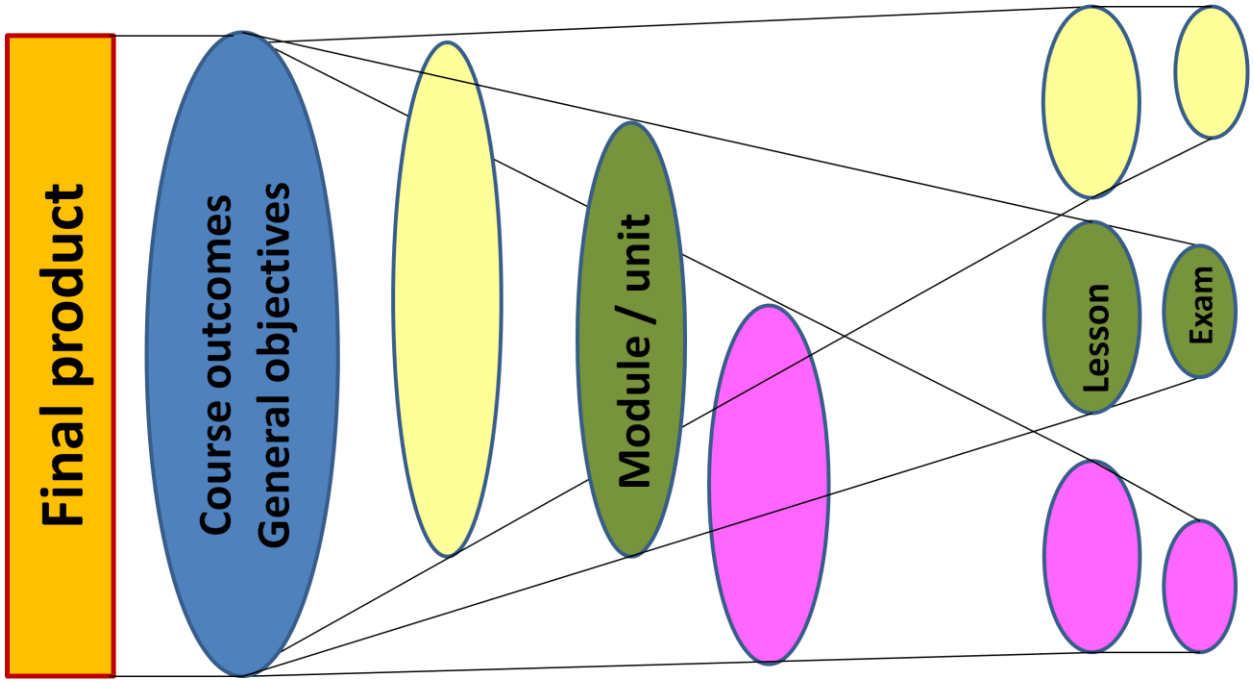


Figure 7.3: Constructive Alignment

Thus, in the above examples, the following Faculty Statements of University of Sydney have been derived from the learning outcomes of the Sydney University, illustrated above in Figure 7.1.

Faculty of Arts and Social Sciences – Contextualized Graduate Attributes

Research and Inquiry: *Graduates of the Faculty of Arts and Social Sciences will be able to create new knowledge and understanding through the process of research and inquiry.*

- possess a body of knowledge relevant to their fields of study, and a firm grasp of the principles, practices, and boundaries of their discipline;
- be able to acquire and evaluate new knowledge through independent research;
- be able to identify, define, investigate, and solve problems;
- think independently, analytically and creatively; and
- exercise critical judgment and critical thinking to create new modes of understanding.

Information Literacy: *Graduates of the Faculty of Arts and Social Sciences will be able to use information effectively in a range of contexts.*

- recognize pertinent information needs;
- use appropriate media, tools and methodologies to locate, access and use information;
- critically evaluate the sources, values, validity and currency of information; and
- use information in critical and creative thinking.

Personal and Intellectual Autonomy: *Graduates of the Faculty of Arts and Social Sciences will be able to work independently and sustainably, in a way that is informed by openness, curiosity and a desire to meet new challenges.*

- be independent learners who take responsibility for their own learning;
- set appropriate goals for ongoing intellectual and professional development, and evaluate their own performance effectively;
- be intellectually curious, open to new ideas, methods and ways of thinking, and able to sustain intellectual interest;
- respond effectively to unfamiliar problems in unfamiliar contexts; and
- work effectively in teams and other collaborative contexts.

Ethical, Social and Professional Understanding: *Graduates of the Faculty of Arts and Social Sciences will hold personal values and beliefs consistent with their role as responsible members of local, national, international and professional communities*

- understand and practice the highest standards of ethical behavior associated with their discipline or profession;
- be informed and open-minded about social, cultural and linguistic diversity in Australia and the world;
- appreciate their ethical responsibilities towards colleagues, research subjects, the wider community, and the environment;
- be aware that knowledge is not value-free.

Communication: *Graduates of the Faculty of Arts and Social Sciences will recognize and value communication as a tool for negotiating and creating new understanding, interacting with others, and furthering their own learning.*

- possess a high standard of oral, visual and written communication skills relevant to their fields of study, including where applicable the possession of these skills in languages other than English;
- recognize the importance of continuing to develop their oral, visual, and written communication skills;
- be able to use appropriate communication technologies.

Source: http://www.itl.usyd.edu.au/graduateattributes/

What are objectives?

As opposed to outcomes, 'objectives' focus on either the process of learning or at an intermediate product. Examples of objectives may be:

At the end of the module the student should be able to define 'democracy'

Knowing the definition of democracy does not adequately portray the final product. Rather it describes an attribute of an intermediate product or the process of reaching the final product. Being able to define a term, such as 'democracy', signifies one milepost towards reaching the final product. For example, if one of the competencies of this final product is 'application of knowledge' to practical situations, then it is necessary to know the meaning of certain important terms such as 'democracy' for instance, critique whether a given society is a true democracy or not. Also, the above objective is focused on a minute and fragmented piece of knowledge, as opposed to broad ability such as 'application of knowledge', which is an outcome. Hence, the above example constitutes an objective that will contribute to achieving and outcome.

The key for any objective is the verb that it contains. In the above example, this verb is 'define'. This directs the students towards the action that he/she needs to master. Based on the action verbs, objectives can be written at different levels. Bloom and colleagues classified all action verbs in to six levels (Figure 7.4).

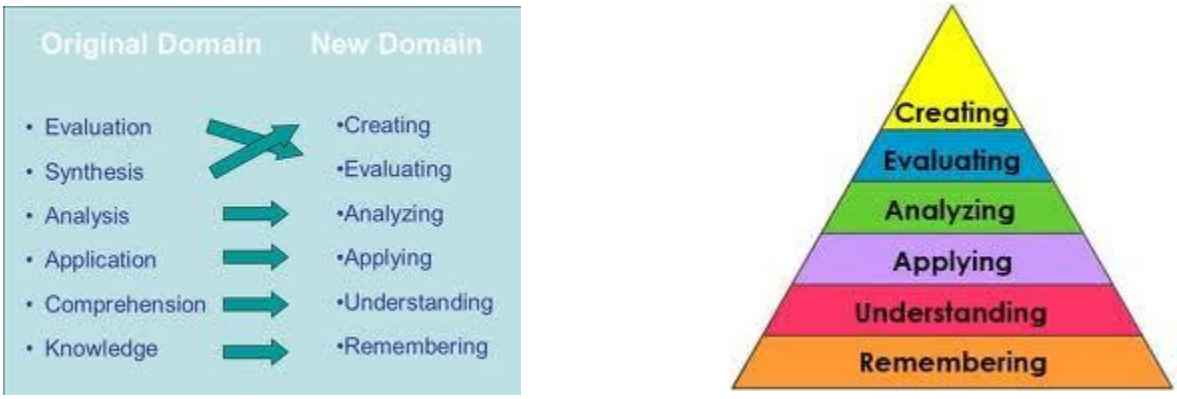


Figure 7.4: Bloom's Taxonomy

You may have realized that the above classification levels are hierarchical. The examples, that was considered above belongs to the lowest level; i.e. 'knowledge recall'. The above example is for the 'cognitive' domain. Similarly there are hierarchical classifications for the 'psychomotor' (i.e. skills) and 'affective' (i.e. attitudes) domains available.

How to write objectives?

Writing objectives is a skill that one needs to master. There are, however, a few guidelines. First, one needs to identify which aspects should be included an objectives. For this, the topic area or the subject matter needs to be decomposed or broken down into small parts. In the above example, 'democracy' could be considered as a part of a curriculum that was derived after such a decomposition of the larger subject area; e.g. methods of governance. Second, the curriculum writer needs to decide on the level of the objective; i.e. the action verb. In the above example the action verb is at the 'recall' level of knowledge; i.e. 'define'.

Next, the writer must ensure that the objective conforms to the SMART criteria. SMART acronym stands for Specific, Measureable, Achievable, Relevant and Time-bound. The first two criteria (specific and measurable – the latter essentially means that the objective is assessable at an examination) is automatically achieved when one selects and action verb from an established classification such as Bloom's classification. Similarly, the criterion 'relevant' is also achieved if the content for the objective is chosen by decomposing or analyzing the subject matter of the curriculum. The criterion 'achievable' needs to be ensured by selecting an action verb which is appropriate for the level of training that the student is at. Finally, 'time-bound' is usually achieved by any educational objective through a phrase such as "at the end of the teaching and learning activity/module/unit/course"; i.e. time limitation that an objective is to be achieved is usually considered as end of a teaching and learning session.

Module 3: Development, Implementation and Evaluation of a Curriculum

o	Topic	Description
1	**Module Title**	Development, Implementation and Evaluation of a Curriculum
2	**Prerequisites and Co-requisites**	Engage in teaching (e.g. conduct lessons in theory and practical) in a formal higher education system and has followed Module 1 and Module 2 above
4	**Module duration**	12 hours (2 days)
5	**Module Aim**	To teach strategies and models of curriculum development, implementation and evaluation, so that such knowledge could be utilized for the successful conduct of study programs
6	**Objectives and Learning Outcomes**	1. Explain the strategies available for curriculum development 2. Compare and contrast the different models of curriculum development 3. Formulate an implementation and evaluation plan for a curriculum
7	**Assessment Strategy**	Three contextual assignments
8	**Syllabus**	1. Strategies for curriculum development 2. Curriculum development models 3. Curriculum implementation-evaluation cycle
9	**Suggested Reading**	• http://www.amdin.org/documents/d00104/SAMDI_TOT_Module_3.pdf • http://www.masterminds-ink.com/Evaluation.pdf • http://www.oph.fi/english/sources_of_information/projects/wbl-toi/tools_and_methods/swot_analysis • http://www.itl.usyd.edu.au/graduateattributes/

Topic 08: Strategies for Curriculum Development

1. **Aim:** To introduce the strategies for formulating and planning, and implementing a curriculum, so that the participants are able to determine the current status and project for the future to achieve the expected outcome or to start anew a curriculum of their own.

2. **Learning Outcomes:** Participants would be able to
   8.1 Explain the strategies available to plan and implement a curriculum
   8.2 Analyze the present curriculum and the ideal
   8.3 Discuss how different strategies could be used to achieve the ideal

3. **Learning Resources**

- Corporate plan of the university and faculty
- Curriculum of a study program, to which they are contributing
- A curriculum of a high ranking study program of their discipline
- A list of teaching and learning resources that could be made available in their setting
- Current literature on subject specifics
- Completed assignment for topic 7

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
8.1	• SPICES is a model for designing a curriculum. It depicts six strategies which are in one extreme of six separate spectra. These spectra are: 1. Student-centered versus Teacher-centered 2. Problem-based versus Lecture-based 3. Integrated versus Discipline-based 4. Community-based versus Classroom-based 5. Elective versus Uniform 6. Systemic versus Apprenticeship-based • It is important to realize that each of the above strategies represents a spectrum, where the left end strategies are indicative of new approaches, while the right end strategies are indicative of traditional approaches.	Brainstorming Snowballing Buzz groups Flow charts	120
8.2	• Using graphical overlays analyze their own curriculum using the above six spectra.	Group and individual work	60

No.	Content Outline	Teaching and Learning Method	Time (min)
8.3	• All of the above six strategies will not be useful in all courses and study programs; only a few of them may be useful. Irrespective of whether all or a few are useful, however, different courses and study programs will require a unique blend of these strategies, depending on their needs and ground realities.	Brainstorming Snowballing Buzz groups Flow charts	60

5. Guidance notes to instructors

Make sure that the participants apply the above concepts to their own study programs.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Determine the ideal mix of strategies that can be used to improve the curriculum that has been discussed under topic 7.

Notes on Topic 8

What are curriculum development strategies?

A 'strategy' can be considered as a broad approach to setting about performing a given task. It is not the performance itself, but how one approaches it. Performance itself will be specified by more detailed steps of actions in terms of protocols, standard operating procedures (SOPs) and models.

So, with regard to curriculum development, strategies imply how one sets about developing a curriculum; i.e. which approach or approaches is/are adopted when developing a curriculum? Based on these approach or approaches, how the curriculum is exactly developed, however, will be specified by the curriculum development models (detailed later in this manual).

There are a number of approaches to curriculum development. Similarly, there are a number of classifications of these strategies. One such classification is the SPICES model, initially developed specifically for medical education, but later adapted to suit other disciplines. This classification includes six strategies, based on the purpose (or the facet of orientation of the curriculum) that each strategy serves in the curriculum development process. As illustrated in Table 8.1, each strategy is modeled as a spectrum where one end represents the traditional approaches while the other end represents the innovative/novel approach.

Table 8.1: The orientation of the six SPICES spectra

Purpose/Facet of Orientation	Novel approach	Traditional approach
Focus of teaching and learning	Student-centered	Teacher-centered
Process of teaching and learning	Problem-based	Lecture-based
How the teaching and learning is organized	Integrated	Discipline-based
Where the teaching and learning takes place	Community-based (Field-based)	Classroom-based
Options that the learner has	Elective-based	Compulsory(Uniform)
How practical training is organized	Systematic	Apprenticeship-based

Student-centered versus Teacher-centered spectrum

The student-centered approach is favored by modern educational programs as the student is the centre of the educational process. It is to facilitate the learning process and to make it more

meaningful. In contrast, in the teacher-centered approach, the entire educational process is in the hands of the teacher. In such an approach it is the teacher who unilaterally decides where, when and how to teach, paying little respect to differing educational needs and learning styles of the learners.

Problem-based versus Lecture-based spectrum

The traditional approach is to provide the learner the necessary information through didactic lectures. Then it is up to the learner to apply the information to practice. Thus, often the learner has to re-orientate in a way that can be used in practice. Problem-based approach presents information as problems. The students have to learn what they do not know while trying to solve the problem. The advantage is that the students learn information in context, in a way that they can readily use it in practice.

Integrated versus Discipline-based approach

Disciplines usually contain a mass of knowledge and skills amassed in a framework which may be easy to study but not necessarily easy (in fact difficult) to apply to practical situations. One of the main reasons for this is that when applying learning to practice, learning from different disciplines has to be combined and applied. This cannot be learnt if the teaching and learning is conducted in a purely discipline-based format. Then it is up to the learner to learn how to combine different pieces of learning in a given situation. In contrast, in the integrated approach the learning is taught in the same way as it is used in practice. Thus, the learner need not re-orientate the learning to suit practice. Instead the learning can be readily put into practice. Hence, the integrated approach bridges the gap between theory and practice.

Field-based versus Classroom-based

It is customary to deliver and acquire learning in the classroom or the laboratory. However, such learning most of the time needs to be applied to practical situations in the field. If there are opportunities for the students to apply what they have learnt in the classroom/laboratory in the field then the learners can better appreciate and understand the practical implications of such learning. Field-based approach offers such opportunities.

Elective versus Compulsory (Uniform)

Traditionally, all students in a given cohort learned the same material. Different students, depending on their likes and dislikes, learning styles and career goals cannot then select material within a broad framework of course specifications. Such an approach illustrates the uniform strategy. The elective approach, however, provides students the opportunity to select related learning material that are related to their learning either directly or indirectly depending on their likes and dislikes, learning styles and career goals. Students can either select learning material of their own choice or they can select from a menu of options offered by the program. The former is called a classical 'elective' while the latter is a variant of the same classical approach called 'selective'. Generally, modern curriculum guidelines recommend two-thirds of the learning material to be organized as compulsory or uniform while the other one-third can be offered as electives.

Systematic versus apprenticeship-based

In the past, before a formal education system was developed, learning occurred at the feet of a guru, where the learner as an understudy followed the guru in his daily practice. Whatever material that the guru came into contact in his daily practice became the learning material for the students. So, the practice material of the guru became the curriculum of the learner. In other words, there was no systematic identification and organization of the learning material for the learner. This is called apprenticeship-based training. Modern curricula, however, favor the systematic approach where learning material is judiciously pre-identified for the learner, irrespective of the trainer's practice. Further the learning material is logically organized in a way that can be easily assimilated, as opposed to receiving learning material in an ad hoc manner, used by the trainer's practice. The advantages of this method are obvious. Irrespective of their teacher/trainer, all students receive the same systematic training.

Topic 09: Curriculum Development Models

1. **Aim:** To impart the knowledge on different aspects considered in models of curriculum development, so that the participants are able to consider these aspects holistically when developing or revising their own curricula.

2. **Learning Outcomes:** Participants would be able to
   9.1 Explain the key considerations when developing a curriculum
   9.2 Select and apply suitable model(s) to their situation

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - A curriculum of a high ranking study program of their discipline
   - Completed assignment for topic 7

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
9.1	• There are at least 10 questions that need to be asked when developing an outcome-based curriculum anew (Harden, 1986). 1. What are the needs of the society that the graduate will work in? 2. What are the learning outcomes? 3. What are the contents? 4. How to organize the contents? 5. What are the strategies used to deliver the content? 6. What are the teaching and learning methods? 7. What are the assessment methods? 8. How should the curriculum be communicated? 9. What is the learning environment? 10. How the curriculum should be managed? In an outcome-based curriculum once the needs are identified the required graduate profile to meet these needs must be worked out. Then competencies required to produce the said graduate profile needs to be identified. Everything that the curriculum should include from content through teaching and learning methods to assessment	Brainstorming Snowballing Buzz groups Flow charts	120

No.	Content Outline	Teaching and Learning Method	Time (min)
9.1	methods will have to be focused on these competencies. The examples of some common competencies used in higher education are communication skills, IT skills, team work, leadership, research and intellectual skills. An example from University of Sydney, Australia (see suggested reading). • A similar model (see suggested reading) has been put forward by Coetzee (2006).	As above	As above
9.2	• The above models need to be followed from A to Z when developing a curriculum anew. However, when revising a curriculum one need not follow from A to Z, but consider all above aspects when making changes to an existing curriculum; i.e. one should not make ad hoc changes. Any change should be 'tested' for its alignment with the outcomes of the program/course and with the rest of the aspects, based on those outcomes.	Group and individual work, based on their own curriculum	120

5. Guidance notes to instructors

Make sure that the participants apply the above concepts to their own study programs.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Critically analyze a curriculum of one's own in comparison to a preferred model.

Notes on Topic 9

This lesson discusses two models that can be used for curriculum development. The first of which is called 10 questions, originally developed by Harden (1986). This model sequentially lists the questions that need to be asked when (or more precisely before) developing a curriculum. These 10 questions revisit almost all of the principles discussed in the previous topics such as outcome-based education, curriculum integration and curriculum development strategies.

1. **What are the needs of the society that the graduate will work in?**

In this day and age, the prime need that the curriculum developer must think of is dominated by the needs of the labor market. It is based on the requirements of the labor market, that the competencies and the content in the curriculum should be selected. Then, there is greater assurance that the employability of the graduate could be ensured. It should be also noted that the needs of the labor market will be determined in turn by the needs of the society. The graduate should be able to join the labor market either as an employee or as an employer starting their own business; i.e. self-employment.

2. **What are the learning outcomes?**

As mentioned above, the learning outcomes or the competencies of the curriculum should be determined by the needs of the labor market. If, however, one is developing a curriculum of one of the component modules of a larger curriculum, then the larger curriculum would have identified the learning outcomes based on the said needs of the labor market. In that case the modular outcomes should be aligned with the learning outcomes of the larger curriculum (e.g. curriculum of the study program).

3. **What are the contents?**

Similar to the learning outcomes, the contents should also be identified based on the needs that the curriculum addresses.

4. **How to organize the contents?**

The organization of the contents should be based on the principles of integration. Thus, modern curricula are not based on disciplines. Rather a combination of several disciplines contributes to

these curricula, so that the arrangement of the contents reflects more the tasks that the graduate will come across in the workplace.

5. What are the strategies used to deliver the content?

The strategies that the curriculum developer should consider are encapsulated in the SPICES model (please read SPICES model for further details). However, two points need emphasis. First, not all the strategies may be needed for a single curriculum. So, the curriculum developer should select carefully, based on the learning outcomes, scope and breadth of the contents, available resources, and the needs of a given curriculum, the strategies that they need to use. Second, a curriculum developer should not always attempt to adopt the strategies at the SPICES end of each continuum. Rather, depending on the learning outcomes, scope and breadth of the contents, available resources, and the needs of a given curriculum, one should select judiciously the position that the curriculum should be placed along each continuum in the SPICES model.

6. What are the teaching and learning methods?

The teaching learning methods may be to an extent dictated by the strategies that the curriculum may adopt. For example, the problem-based strategy would obviously warrant the use of problem-based learning as a teaching and learning method. Modern curricula, which are student-centered, more often use small group-based or task-based, interactive teaching and learning methods, rather than didactic lectures. A good curriculum employs a variety of teaching and learning methods, so that it caters to the learners with different learning styles.

7. What are the assessment methods?

Assessment methods are often an afterthought of a curriculum. This means that many curriculum developers do not think about assessment during the planning stage of the curriculum. However, as ‘assessment drives learning’ it is crucial that assessment is aligned with the learning outcomes, contents, and teaching and learning methods of the curriculum. Hence assessment methods should be thought of and determined simultaneously with the rest of the curriculum development.

8. What is the learning environment?

The learning environment encompasses all the facilities that the curriculum offers a learner. They include classrooms, lecture halls, libraries, IT suites, hostels, gymnasia, and the general

ambiance that these facilities together with the personnel who man these facilities create.

9. How should the curriculum be communicated?

There are many ways of communicating a curriculum. The most traditional way is through a timetable. However, modern curricula inform the learner about it even before the leaner enters a study program.

This is by means of prospectuses, web pages, newsletters, etc. These sources help the learner to select the study program that suits them best. Once the learner enrolls in the study program more specific details of the curriculum (virtually details of all of the 10 questions in this model) are communicated to the learner upfront through curriculum handbooks, study guides and manuals.

10. How the curriculum should be managed?

No matter how good it looks on paper, the worthiness of a curriculum is mainly determined by its implementation. Thus, there should be a well-oiled system in place to ensure that the curriculum is implemented as planned. The roles and responsibilities of the key members and committees (e.g. module committees) should be clearly documented. Further the mechanism of further curriculum change and improvement, based on a system of continuous curriculum monitoring and evaluation should be in place.

Reference

Harden R. M. (1986). Ten questions to ask when planning a course or curriculum. *Medical Education* 20(4): 356-365.

Topic 10: Curriculum Implementation-Evaluation Cycle

1. **Aim:** To impart the knowledge of implementing, monitoring and evaluating a curriculum, so that timely interventions can be made to bring about the desired outcomes.

2. **Learning Outcomes:** Participants would be able to
   10.1 Appreciate the importance of monitoring and evaluating the sustainability of a curriculum
   10.2 Discuss the tools available for curriculum evaluation
   10.3 Devise a method to monitor and evaluate the curriculum in one's own discipline

3. **Learning Resources**
   - Corporate plan of the university and faculty
   - Curriculum of a study program, to which they are contributing
   - A curriculum of a high ranking study program of their discipline

4. **Lesson Plan**

No.	Content Outline	Teaching and Learning Method	Time (min)
10.1	• Monitoring and evaluation should be considered as a part of the curriculum, rather than something additional to the curriculum. Thus, curriculum development, implementation, monitoring, and evaluation should be considered as the components of one cycle. In the said cycle results of monitoring and evaluation should be fed back to the curriculum development process. • It is through such monitoring and evaluation a curriculum will be sustained without being outdated.	Brainstorming Snowballing Buzz groups Flow charts	60
10.2	• Two commonly used models for evaluation of a study program are: SWOT and Kirkpatrick's Model. • SWOT refers to identifying Strengths, Weaknesses, Opportunities and Threats related to a curriculum, in order to find gaps that could be bridged to achieve a more fit-for-purpose curriculum. • Kirkpatrick's model considers an evaluation of a study program in four levels: feedback from the stakeholders; assessment of learning; evaluation of the transfer of learning to real-life situations; and finally the evaluation of the impact that the learning has made on the society at large.	Brainstorming Group and individual work, based on their own curriculum	120

No.	Content outline	Teaching and learning method	Time (min)
10.2	• There are many tools such as questionnaires, interviews, focus groups, examination results, external reviewer reports, market surveys and employment data that can be used to evaluate each of the above levels of Kirkpatrick's model or each of the above aspects in SWOT analysis.	As above	As above
10.3	• Each of the above tools will have to be carefully selected depending on the 'evaluation question' that one needs to answer.	Individual and group work	60

5. Guidance notes to instructors

Ensure that the participants apply the above concepts to their own study programs.

6. Activities

- Question and answer sessions
- Group activities
- Individual activities
- Panel discussions

7. Assessment

Assignment: Design a program for implementing, monitoring and evaluating a curriculum of one's own.

Notes on Topic 10

'Monitoring' and 'evaluation' are sometimes used interchangeably. However, technically speaking, 'monitoring' refers to an *ongoing* process to determine whether a program is on-track in achieving its overall aims, goals and outcomes. 'Evaluation', on the other hand, refers to a *time–limited* effort to find out whether a program has achieved what it should have achieved at given point in time. Thus, evaluation has a more summative function, as opposed to monitoring, which has a more formative function. Table 10.1 outlines the basic differences and similarities of monitoring and evaluation.

Table 10.1: A comparison between 'monitoring' and 'evaluation'

	Monitoring	Evaluation
Timing	Always during the program	Can be during or at the end of program
Aim	Always, or at least mostly, formative	Can be formative or summative
Personnel involved	Usually internal personnel	Can be an internal or external personnel
Purposes	Same (efficiency, effectiveness, and impact)	Same (efficiency, effectiveness, and impact)
Reasons	Same (review progress, identify problems, make adjustments)	Same (review progress, identify problems, make adjustments)

However, monitoring and evaluation should be a part of the same cycle; i.e. evaluation cycle. Further, monitoring and evaluation should NOT be viewed as a process external to the curriculum development process. Rather, monitoring and evaluation should be an integral part of curriculum development. This means that at the time of a curriculum is designed, a monitoring and evaluation system should be identified. Thus, a monitoring and evaluation cycle can be illustrated as follows.

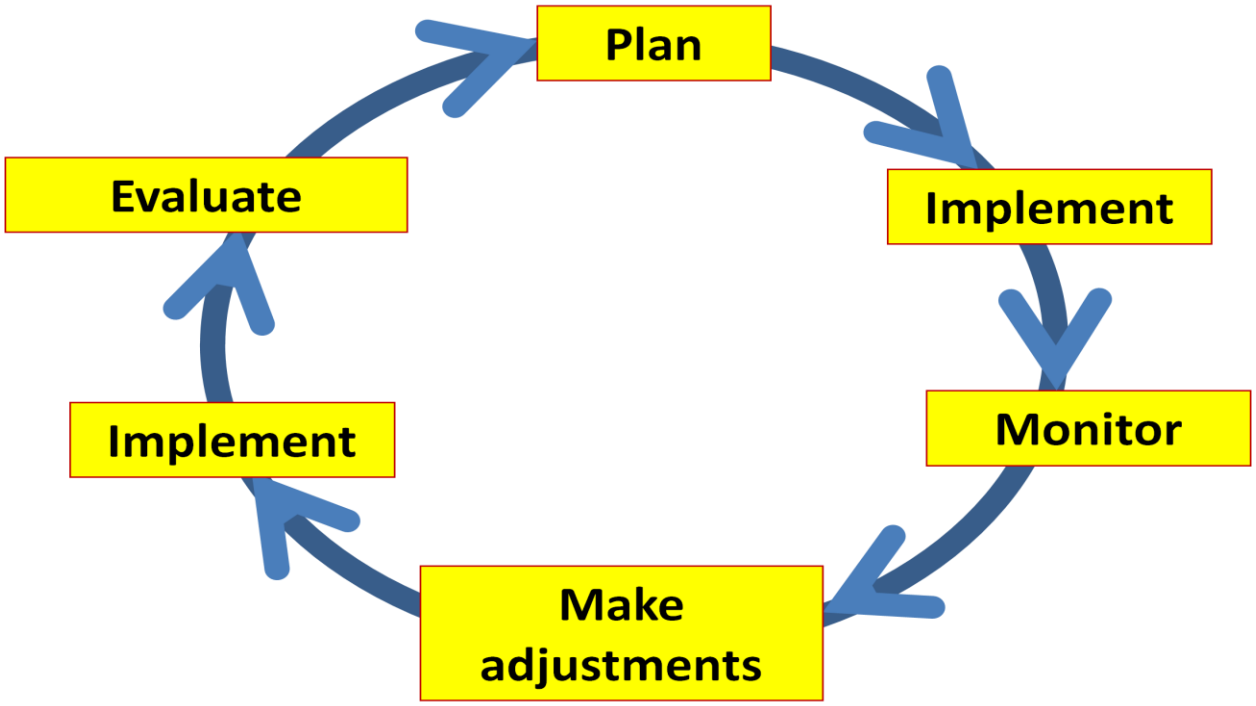


Figure 10.1 – Monitoring and evaluation cycle

The most important step in a monitoring or evaluation process is the identification of the 'evaluation question(s)'. It is to answer the said question(s) that the ensuing data collection and data analysis efforts should be directed. Hence, once the evaluation question(s) is/are identified, an evaluation program should decide on the evaluation model, the data collection tools and the data analysis methods that should be used.

The models used to evaluate and monitor curricula are not specific to education. They have mostly been borrowed from other disciplines (especially management), but has been suitably modified to suit the educational program that is being monitored or evaluated. One such model is SWOT analysis. Table 10.2 shows such an adaptation of the SWOT model to evaluate work-based learning (WBL).

Table 10.2: An example of the SWOT analysis

	STRENGTHS **List the positive characteristics of WBL**	**WEAKNESSES** **List the negative characteristics of WBL**
INTERNAL	• Versatile and active contacts with working life • Good reputation as an innovative organization • Highly qualified staff with long experience of working life in the field • Motivated students • Modern working environment at school • Responsible, innovative and open-minded management • Good counseling for students to support their decisions relating to on-the-job learning places • etc.	• Poor contacts with working life and stakeholders • Poor communication between educational organizations and working life concerning the qualification needs of enterprises • Lack of qualified staff (no close contacts with working life) • Weak management – not improvement-oriented • Poor resources of all kinds • etc.
	OPPORTUNITIES **List of opportunities for WBL**	**THREATS** **List of threats to WBL**
EXTERNAL	• Looking after new contacts with working life and stakeholders • Creating an innovative working climate • Changing planning methods • Modern working environment at workplaces • Technological progress • Integrating different stakeholders and target groups into planning • Increasing the importance of WBL within the curriculum • etc.	• Losing contacts with working life and stakeholders • Bad working climate in on-the-job learning places, but also within the VET organization • Inadequate planning methods • Technological equipment is not updated • Staff losing motivation to support WBL and WBL students • Not enough competent counseling for students at workplaces because of possible changes at workplaces • etc.

Source: http://www.oph.fi/english/sources_of_information/projects/wbl-toi/tools_and_methods/swot_analysis

Task: Apply SWOT analysis for a module/course/study program of your choice.

Another famous model that is used frequently in education is Kirkpatrick's model. Originally designed to evaluate business and management programs this model can be readily related to evaluate educational programs. Below is an account of how to apply the four levels of this model to an educational setting.

Level One-Reaction

Level one is the measurement of students' feelings of like or dislike for a class or program by asking, listening, or using evaluation forms at the conclusion of a course. These evaluations provide administrators and instructors with valuable insights for course improvement in areas where student input is the best data. The results could include increased course popularity and enrollment, and might help achieve higher ratings for educational programs among students and faculty alike.

Level Two-Learning

Midterm and final examinations, quizzes, and project or portfolio assessments are forms of level two evaluations which are common in academics. These are used to determine the knowledge, attitudes, and skills the learner has attained in a specific course. In business and industry, however, level two evaluations are more rare. This difference is logical and expected because industry is more focused toward on-the-job performance and often has constraints which prevent evaluation in the classroom (Erickson, 1990).

Because business and industry tend to utilize level one instruments to evaluate classroom training while universities conduct level two measurements, very different perceptions of a successful program can potentially exist. How well a student likes a course (level one) does not necessarily imply that he or she has learned what was intended (level two). Great care must be exercised when assuming success on one level will equate to success on any other level of evaluation.

Level Three-Application

Level three evaluations determine how well students transfer the knowledge and skills they learned into actual workplace performance.

A key to the success of this level is a clear determination of exactly what is to be evaluated and where, how, and when this takes place. In business and industry, students can apply what is learned and be measured for competency in actual job settings. At universities, most courses do not lend themselves to this type of evaluation because there is a focus on providing a strong knowledge foundation which will later be used for skills development. Practicums, co-op and work experience programs, and internships, however, provide a powerful medium for evaluating students within the context of real work settings.

Level Four-Results

Level four evaluations emphasize the contributions of training to the organizational mission and objectives. Higher education faces different challenges than business and industry since its primary mission is to meet the perceived and real needs of many stake holders (i.e., faculty, students, employers, community groups, parents). Increasingly, administrators must prove that programs are meeting these needs and that they are making an appropriate impact for the monetary expenditure. When issues such as time, effort, resources, and the availability of data are considered, this approach to evaluation can be very challenging.

Many programs in higher education have been eliminated because of low enrollment, outdated equipment, or a lack of faculty skills. In other cases, good programs have been eliminated because there was no data to prove what the program had accomplished. A well-conceived and implemented level-four evaluation plan can reveal program weaknesses before they become problematic, as well as providing a strong rationale for continuance.

Source: http://scholar.lib.vt.edu/ejournals/JITE/v34n3/AtIssue.html

Please read the whole article using the above link. This will provide a better overview of how to use Kirkpatrick's model in an educational setting.

What are the methods/tools that can be used to collect data for evaluation at each of the above four levels?

The following is a synopsis of the methods that can be used to collect data on each of the four levels of Kirkpatrick's model, described in the context of business training. However, the same methods and tools can be used or customized to many other training programs.

Table 10.3: Kirkpatrick's levels of evaluation

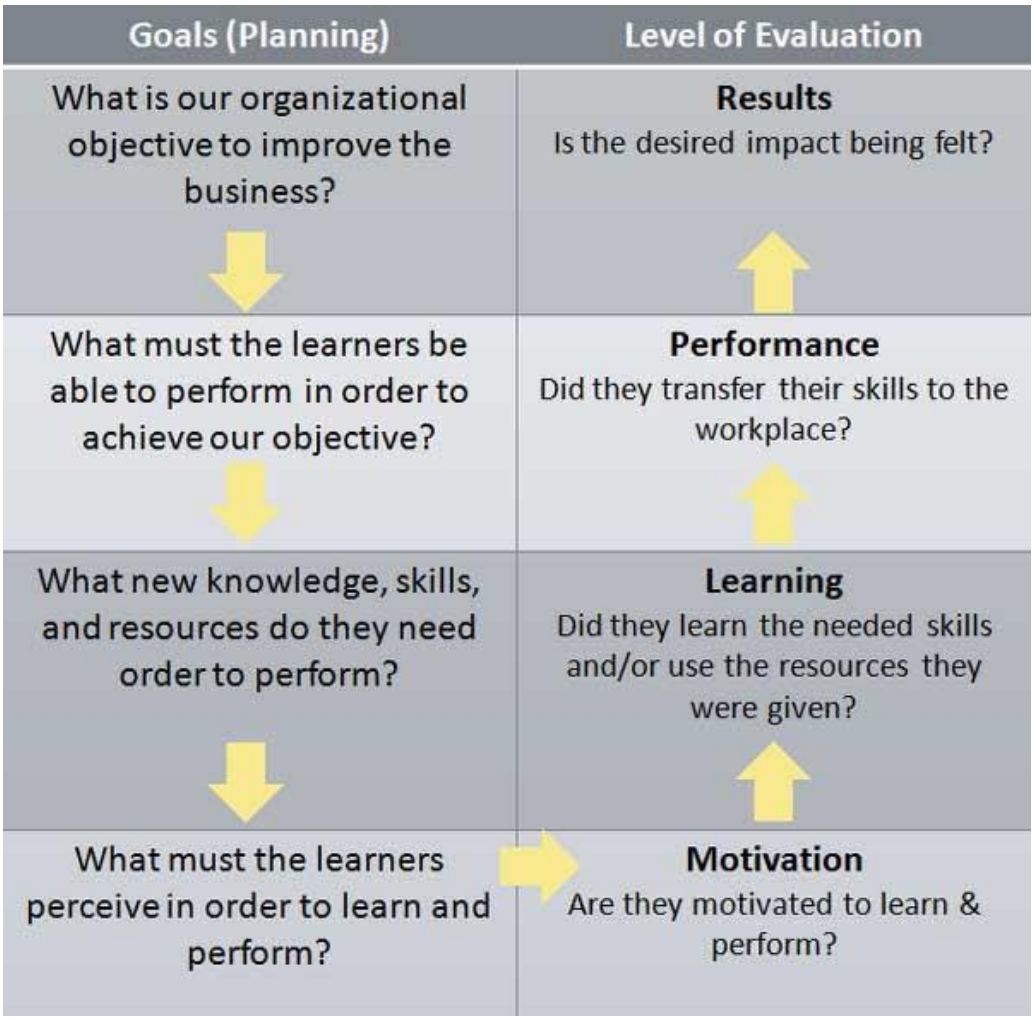
Level	Evaluation type (what is measured)	Evaluation description and characteristics	Examples of evaluation tools and methods	Relevance and practicability
1	**Reaction**	Reaction evaluation is how the delegates felt about the training or learning experience.	'Happy sheets', feedback forms. Verbal reaction, post-training surveys or questionnaires.	Quick and very easy to obtain. Not expensive to gather or to analyze.
2	**Learning**	Learning evaluation is the measurement of the increase in knowledge - before and after.	Typically assessments or tests before and after the training. Interview or observation can also be used.	Relatively simple to set up; clear-cut for quantifiable skills. Less easy for complex learning.
3	**Behavior**	Behavior evaluation is the extent of applied learning back on the job - implementation.	Observation and interview over time are required to assess change, relevance of change, and sustainability of change.	Measurement of behavior change typically requires cooperation and skill of line-managers.
4	**Results**	Results evaluation is the effect on the business or environment by the trainee.	Measures are already in place via normal management systems and reporting - the challenge is to relate to the trainee.	Individually not difficult; unlike whole organization. Process must attribute clear accountabilities.

Source: http://www.businessballs.com/kirkpatricklearningevaluationmodel.htm

Once the evaluation is complete, the results should not be an end in itself. Rather, the results should be fed back to quality improvement process so that the necessary changes to the program can be initiated.

This, in other words, would complete the evaluation cycle. Such a process, in light of the above model (i.e. Kirkpatrick's model) is illustrated below.

Table 10.4: Revised evaluation model



Source: http://www.nwlink.com/~donclark/hrd/isd/kirkpatrick.html

Task: Discuss whether the evaluation cycle in the above figure is complete? If not, how can it be completed?

Task: Select a module/course/study/module of your choice and identify how you will apply the Kirkpatrick's model to this module/course/study/module.

End-of-Program Assessment

The participants who need a certificate awarded by the HETC/UGC should complete the End-of-Course Assessment.

This assessment consists of:

(a) submission of the 10 assignments that they have written during the course

(b) a 30-minute presentation based on the 10 assignments that they completed. This presentation should be comprehensive and coherent, based on a single curriculum that the participant has worked on during the course.

Two examiners will examine each candidate, based on a structured marking scheme and only those who attain a 'PASS' grade will qualify to receive the certificate.